SANTA CLARA VALLEY WATER DISTRICT
PERFORMANCE AUDIT

Performance Audit Report

Final

April 12, 2000

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Santa Clara Valley Water District
SECTION 1 – OVERVIEW

BACKGROUND

The Santa Clara Valley Water District (District) is a special district created by state legislation and is the product of a 1968 merger of the Santa Clara Valley Water Conservation District and the Santa Clara County Flood Control and Water District. The District's responsibilities encompass comprehensive water management services to provide water supply, flood protection, and stream management to the communities of Santa Clara County.

The District's various raw and treated water supply functions are collectively known as the Water Utility Enterprise (Water Enterprise). The Water Enterprise is responsible for treatment and transmission of surface water as well as groundwater recharge and basin management systems. The District relies on several water supplies including runoff in local reservoirs, the federal Central Valley Project, and the South Bay Aqueduct of the State Water Project (SWP). The District's three surface water treatment plants – Rinconada, Santa Teresa and Penitencia – have a combined total treatment capacity of approximately 210 million gallons per day (MGD).

> ***District's Strategic Goal***
>
> *"To provide reliable, affordable and high quality water now and in the future by enhancing supply and system flexibility."*

The District Board of Directors periodically conducts Board-directed audits, combined with staff-directed audits, to determine whether District programs, activities, and functions are meeting stated performance goals. Within the past several years, the Board has commenced a performance audit of the District's flood management Capital Program and components, and General Counsel's Office. Management has commissioned the American Water Works Association to perform a "QualServe J" review. The District has recently undertaken several major projects under the Capital Improvement Plan (CIP) totaling $210 million; most of the funds will be used to upgrade the Water Enterprise's treatment facilities in order to meet the new Federal Microbial & Disinfection By-Product rules. Recent studies indicate the District will require rate increases totaling 50% over five years to finance the planned CIP expenditures. During hearings on the District's water rates in May of 1998, the Water Retailers Committee, which represents 15 of the District's primary customers, requested that the District's Board of Directors (Board) conduct a performance audit of the District's Water Enterprise. Through this process, the District hopes to identify its current strengths, as well as areas for improvement and cost savings. In response to the Water Retailers' concerns, Malcolm Pirnie was engaged by the Board to conduct a performance audit to ensure that the Water Enterprise is operated as efficiently and effectively as possible in order to minimize future water rate increases. This draft final report presents the observations, findings, and recommendations for Phase II (Benchmarking), Phase III (Performance Assessment), and Phase IV (Financial Review) of the Water Enterprise Performance Audit conducted by Malcolm Pirnie from August 1999 through March 2000.

PROJECT GOALS AND OBJECTIVES

To address the stated concerns raised by the Water Retailers, the Board's goals of the Water Enterprise Performance Audit are to:

- determine effectiveness of the District's programs and operations in achieving the Board's strategic objectives, and
- identify methods of improving and monitoring program efficiency, quality, and effectiveness.

To oversee Malcolm Pirnie's effort, the Board Audit Committee has the responsibility for ensuring the performance audit is responsive to the issues and concerns raised by several of the District's customers. The Audit Committee identified six primary functional areas that represent the District's water utility operation:

Water Operations

- Water treatment plants
- Reservoirs
- Ground water production
- Pump stations
- Distribution system
- On-stream recharge
- Percolation ponds
- Laboratory

Water Quality

- Water quality strategy
- Water quality programs
- Watershed management
- Ground water protection
- Irrigation water quality
- Customer perception

Water Resource Planning

- Integrated resource management
- Water supply planning
- Future water demand projections
- Rebate/partnership programs
- Recycled water
- Water supply agreements
- Water conservation

Capital Improvement Planning & Management

- CIP process
- Development & prioritization
- Project justification
- Project implementation

Customer, Community & Government Relations

- Customer service
- Account management
- Public information strategy
- Bay-Delta participation
- Community outreach
- Government relations
- Public perceptions

Business Management & Planning

- Business planning
- Support functions
- Procurement & inventory tracking
- Staff allocation
- Board communications

Malcolm Pirnie's main project objective was to identify key strategic improvement and monitoring opportunities within each of these functional areas by comparing current work practices and procedures through the use of site tours, employee interviews, document reviews against industry best practices, and benchmarks against other similar utilities. The project focus was on improving the quality of services and products the District provides, while reducing overall costs. A key element of the project was to provide the Board with tools to monitor the success of the Water Enterprise in achieving the Ends Policies resulting from the implementation of policy governance.

APPROACH

In order to satisfy the Board's desires and stated project goals, Malcolm Pirnie conducted a strategic, top-down program review that included a qualitative analysis of existing work practices and a quantitative evaluation of key performance metrics. Project Champions were identified in each of the six focus areas of the District to assist Malcolm Pirnie in compiling information and scheduling interviews and evaluations. Throughout the audit process, Malcolm Pirnie met regularly with members of the Board Audit Committee to ensure alignment of project expectations, to discuss project status and progress on action items, and to validate key findings or observations. The Project Champions and the Audit Committee's efforts proved extremely valuable in understanding the Water Enterprise's mission, goals, accomplishments, and future challenges.

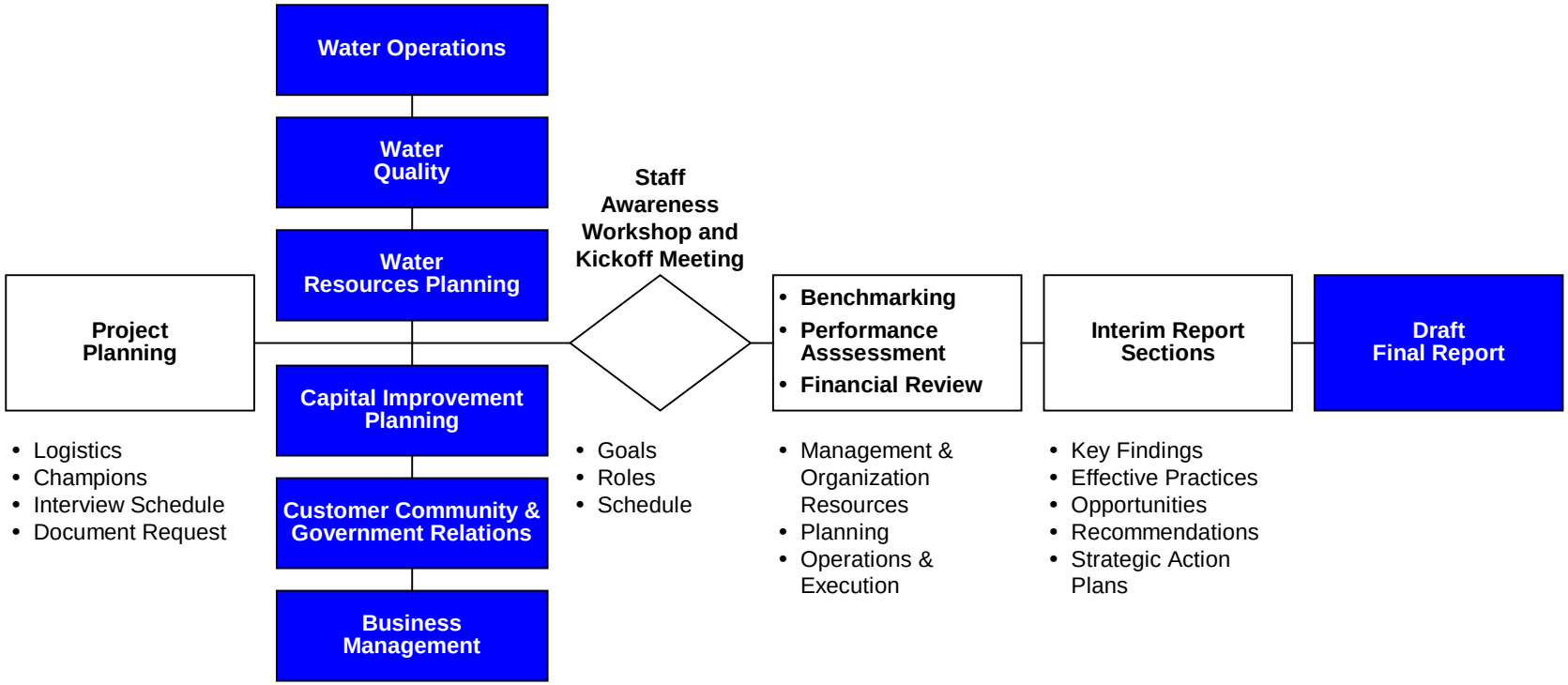
Water Enterprise Mission

"To provide high quality water at the wholesale level in sufficient quantity for present and future beneficial use by the County's lands and population."

This Performance Audit was designed to identify methods of improving efficiency, quality, and effectiveness by achieving the following four audit objectives identified by the Board:

1. Assess the operational and cost-effectiveness of the utility's activities in acquiring, conserving, treating, and delivering water to its customers in Santa Clara County.
2. Assess the operational and cost-effectiveness of the utility's activities in protecting and improving the quality of all District water supplies.
3. Compare the operational and cost-effectiveness of the District's water utility to similar agencies.
4. Evaluate the water utility's cost structure and the costs of serving specific customer segments in light of costs incurred by other agencies and the service requirements of the District customers.

Performance Assessment



To best achieve the stated project goals, Malcolm Pirnie executed a four-phase assessment. Our four-phase audit workplan is depicted above. The phased order of our audit was carried out as follows:

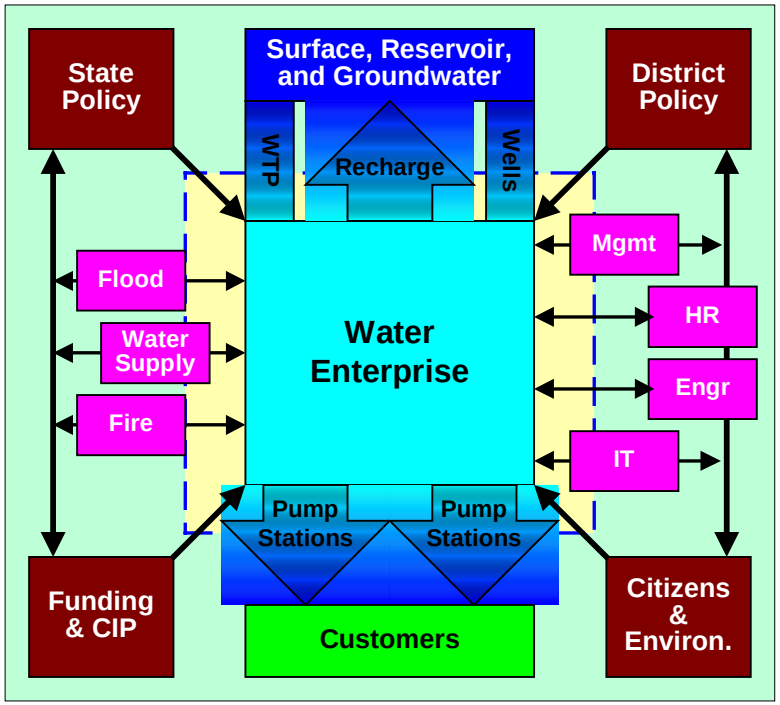
Phase I – Project Planning: Phase I – Project Planning activities were completed in October 1999. During the Phase I activities, Malcolm Pirnie facilitated four Staff Awareness Workshops with District employees. During the workshops, Malcolm Pirnie introduced the project team, discussed the project goals, presented the project approach, and answered any concerns the employees raised. The Phase I Project Planning Report presents the initial findings from the customer interviews and the Staff Awareness Workshops.

Phase II – Quantitative Benchmarking Analysis: In parallel with the effective practices review (Phase III), our team conducted a quantitative benchmarking analysis in order to compare the Water Enterprise's overall utility performance against other similar public and private sector providers, as well as against surveys of industry standards. Our quantitative analysis benchmarked key performance metrics in each of the following five major system components of the District's Water Enterprise:

- Water Operations
- System Operation and Maintenance Management
- Customer, Community and Government Relations
- Business Management and Planning
- Human Resources

Comparable facilities or systems were selected based on similarity in size and operations to the District and metric data was obtained and analyzed to identify areas where significant performance gaps may exist. The benchmarking evaluation was completed in February. The results of the Phase II Benchmarking Analysis are presented in Section 3 of the Final Audit Report.

Phase III — Performance Assessment Framework



Phase III – Performance Assessment: The Performance Assessment provides the District with a detailed evaluation in the areas of effective and efficient utility work practices. Water Enterprise policies and procedures were reviewed against established industry best practices. The assessment also evaluates the Water Enterprise's interactions with other parallel or support functions and how these relationships may impact the daily or long-term operations of the Water Enterprise. The dashed box in the organizational diagram to the right depicts the extent of the Phase III Performance Assessment. The Phase III Performance Assessment was conducted in these segments:

- Water Operations
- Water Quality and Water Resources Planning
- Community and Government, Business Management and Finance, and the Capital Improvement Program

The complete Phase III Performance Assessment and a summary of recommendations is provided in Section 4 of this report.

Phase IV – Financial Review: Malcolm Pirnie assessed the five primary financial activities identified by the District. The financial review included these five focus area tasks:

1. Review budgeting process and approval process to determine if they are achieving the desired business goals with a positive effect on operational performance.
2. Review cost allocation for operating and capital costs so that costs will be borne by those who receive the benefit of the expenditures.
3. Review cost tracking and cost performances (managerial accounting and activity based costing practices) for effectiveness.
4. Review overhead cost allocation for general and administrative (G&A) costs on the basis of need and efficient functionality.
5. Review water rates and the rate development tools and techniques used by the District.

This review included evaluation of the cost structure and the costs incurred to serve specific customer segments, allocation of costs to specific segments, and the internal cost allocation where the water utility and flood management functions overlap. The evaluation discusses:

- opportunities for efficiencies in rate development, emphasizing the optimal approach to large anticipated increases to meet drinking water regulations;
- flexibility in rate development to allow for the sensitivity to changing costs and water demand stemming from weather or price responses; and,
- more equitable allocations of costs to customers, local service areas, and to the flood and water utility functions.

DATA GATHERING METHODOLOGY

Throughout this performance audit, our team utilized several tools to efficiently gather relevant information regarding the District's policies, organization structure, management systems, operations and maintenance procedures, and actual work practices. The primary methods used include individual and group interviews, document requests, facility tours, and surveys.

Pre-evaluation Surveys. Focused survey instruments were distributed to members of the Board, the Project Champions, representatives of District customers, and approximately one third of the approximately 300 Water Enterprise employees. The completed surveys allowed Malcolm Pirnie to cost-effectively obtain large numbers of answers to several important questions. District employees responding to the survey were asked to provide information on various aspects of their work environment such as any barriers in completing their work assignments, amount of available resources, and the level of intra-communication with District management and staff. District customers and outside stakeholders were asked to comment on the District's customer service, the ability to meet customer and community needs, and its overall mission and goals. Summarized results for each survey group are presented in Appendix C.

Workshops. Four Staff Awareness Workshops were conducted to kick off the performance audit with the District staff. Each workshop consisted of a presentation outlining the purpose and scope of the audit, how the audit builds on the recent QualServ findings, and the project's methodology for obtaining requisite information. A question and answer period immediately followed each workshop presentation; this allowed Malcolm Pirnie to solicit information from the staff on new initiatives, District strengths, and any potential areas for improvement. Malcolm Pirnie also conducted a workshop with the Project Champions to further develop their performance audit roles and responsibilities.

Interviews. During the performance audit, Malcolm Pirnie conducted individual interviews with all Board members, over 100 District employees, and six representative customers. Follow-up interviews were conducted with specific individuals, as needed, to validate previous findings or to further understand or address key issues. All specific discussions during the interviews will remain confidential within the Malcolm Pirnie assessment team. A list of employees interviewed is provided in Appendix C.

Document Request and Review. Prior to and throughout the evaluation, Malcolm Pirnie requested and reviewed many District documents. Policies, organizational structures, operating and maintenance procedures, budgets, and performance measurements are just a few of the documents reviewed during our evaluation. A list of the documents reviewed is provided in Appendix B.

Facility Tours. Tours of the Santa Teresa and Rinconada Water Treatment Plants, Vasona Pump Station, Lexington Reservoir, and several recharge/percolation ponds were conducted. During the facility tours, our team observed the physical plant equipment, laboratory, meter shop, control room, and other associated facilities. These tours provided the evaluation team with first-hand observations on plant and equipment conditions and how actual work practices are conducted.

SANTA CLARA VALLEY WATER DISTRICT
SECTION 3 – BENCHMARKING

OVERVIEW

In order to provide the District with a quantifiable comparison of its performance against other similarly sized water utilities, Malcolm Pirnie identified various publicly and privately operated facilities and systems believed to possess enough similarity in size and operations to provide a meaningful comparison.

The comparative facilities selected in this study were chosen because of similar supply, treatment process and distribution system operations and complexity as compared to the District.

To avoid any potential confidentiality problems, we have removed all identifying utility identification information from the analysis, except for the U.S. region where the plant is located. The comparative private and public sector facilities will remain confidential, internal to Malcolm Pirnie, and are only referenced in this report as Facility # A, B, C, etc.

Our study focused on key quantitative aspects of the following five major functions of the District:

- Water Treatment
- Customer, Community, & Government Relations
- System Operations & Maintenance Management
- Business Management & Planning
- Human Resources Summary of Competitive Findings

Methodology

- ✔ Compare key District Utility parameters at an aggregated level to similar private and public sector operations to quantify competitive gaps.
- ✔ Normalize data based on various ACCRA cost of living and utility indices, and other regional factors.
- ✔ Normalize data based upon equivalent scope of services with private/public sector.
- ✔ Normalize data based upon significant operational differences (e.g., adjust electricity costs for regional variations).

Levels of Analysis

District

↓

"Utility" (Water Enterprise)

↓

O&M Group

CONCLUSIONS

Based upon our benchmark analysis with similar facilities, most of the District's operations and work practices are on par with the average utility performance. Some select District practices were identified as comparable to private utilities. The following discussion summarizes the key points regarding the various components of the District's utility.

Water Treatment. Staffing at the water treatment plants is comparable to other public utilities. Two of the three water treatment plants are operating at levels significantly below capacity, thereby, increasing the cost of treatment per actual flow rate. When compared with similar public utilities, the District's preventive and corrective maintenance effort is near average.

System Operations & Maintenance Management. Raw water transmission expenses are below the average. Operational costs appear competitive with the private sector wholesale and below public sector wholesale /retail partners. Maintenance expenses for the treated water distribution are below the average.

Human Resources. District-wide and O&M average overtime is equivalent to that of public sector utilities. Individual unit overtime rates vary significantly, ranging from 0.4% to 12%. The District does not allot or utilize as many training hours as comparable utilities.

Customer, Community, & Government Relations. The District expends a higher percentage of its overall budget on public information and community outreach (inclusive of water conservation efforts) than any of the comparable public and private partners. The District is slightly above average percent of total budget spent on government relations.

Business Management & Planning. The District's Indirect Full Cost (percent of budget not allocated to a core function) is higher than average when compared to other public sector utilities.

Malcolm Pirnie worked with District personnel to compile all utility related information. All District and partner benchmark data has been thoroughly reviewed and validated with the appropriate utility personnel to ensure an accurate representation of the current Water Enterprise operations. However, some data may not reflect organizational and operation changes that have been implemented since completion of the investigative phase of these assessments. However, where possible, District personnel have been consulted to obtain the most recent information prior to publication of this report in April 2000.

During this data collection process, District personnel encountered difficulties accessing precise, well-defined information from the information management systems available. These difficulties resulted from data collection and formatting methods that did not facilitate benchmarking or performance metric analysis. The current status of District information management systems and the noted information extraction difficulties further support the District's need to establish meaningful performance metrics and implement the tools necessary to track them.

RECOMMENDATIONS

The overall conclusions and recommendations of this analysis are based on our comprehensive knowledge of the District's operations resulting from the Phase III – Performance Assessment and the Phase IV – Financial Review as well as the Phase II Benchmarking Analysis. Individual graphs do not necessarily relate all the associated information utilized to draw meaningful recommendations and should not be interpreted as a sole source of evaluation.

The benchmarks evaluated in this report collectively provide the District with an initial baseline assessment of District operations and practices. This benchmarking analysis is one component of a multi-phased assessment and should be evaluated by the Board and by staff in conjunction with the whole performance assessment. Please note, this benchmarking analysis represents a unique "snap-shot" evaluation that was completed based on the information available at the time of the benchmark assessment.

Preventive maintenance activities are slightly below the average percent. Increasing the preventive maintenance and decreasing the corrective maintenance of the conveyance system will improve reliability and performance. By adopting a more aggressive preventative maintenance approach, the District could increase the efficiency of the treatment operations and reduce long-term maintenance costs.

Development of a more accurate method for the tracking of lost and unaccounted for water will provide the district with a more effective tool for long-term evaluation of water conveyance system performance. Any identified reductions in lost and unaccounted for water may reduce overall unit treatment cost.

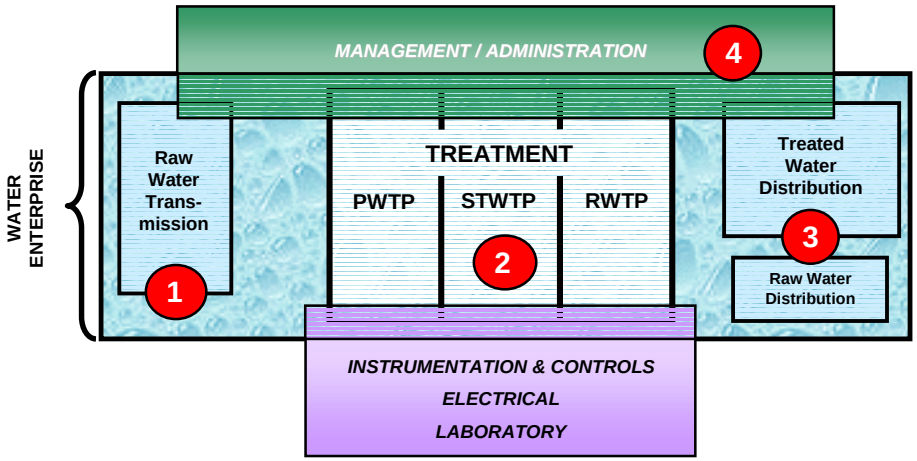
Accurate tracking and analysis of overtime use for units which exceed the District-wide average will allow for better management of labor resources in select groups.

APPROACH

The Water Utility Enterprise manages the import of surface water and the extraction of groundwater for treatment and distribution to retail utilities for the residents of Santa Clara County. Because the District is unique in its operations, Malcolm Pirnie split the Water Enterprise into four main functions for the purpose of completing this benchmarking evaluation: 1) Transmission of Raw Water (Raw Water Transmission), 2) Treatment at Rinconada Water Treatment Plant (RWTP), Santa Teresa Water Treatment Plant (STWTP), and Penitencia Water Treatment Plant (PWTP); 3) Distribution of Treated and Raw Water to Wholesale Customers (Treated Water Distribution); and 4) overall management. The treatment plants are supported by the District's Instrumentation and Control, electrical, and laboratory services, and all three components are supported by the District's managerial and administrative staff. This functional breakdown is illustrated below.

Malcolm Pirnie surveyed 11 public and private water utilities, detailed below, for water treatment and water conveyance. Malcolm Pirnie confirmed that none of the benchmarking partners were cited for major water quality violations in FY 98/99.

Malcolm Pirnie selected the American Chamber of Commerce Research Association (ACCRA) Cost of Living Index for Third Quarter 1998 to normalize the living cost differentials between major urban areas. The ACCRA Cost of Living Index provides a percent change in cost of grocery items, housing, utilities, transportation, health care, and goods and services between two cities, allowing normalization of costs. Energy costs for the cities were evaluated separately using the ACCRA utility cost of living percent change.



Partner	A	B	D	E	F	G	I	K	L	M	N
Location	SE	SW	NW	NW	NE	SE	SW	SW	NW	SW	NW
Utility Type	Private – Investor Owned	Public – Municipal	Public – Municipal	Public – Municipal	Private – Investor Owned	Public – Municipal	Public – Municipal	Public – Municipal	Public – Municipal	Public – Municipal	Public – Municipal
Customers	Wholesale	Wholesale & Retail	Wholesale & Retail	Retail	Wholesale & Retail	Retail	Wholesale	Wholesale	Wholesale & Retail	Retail	Wholesale & Retail
Benchmarking Partner for Water Treatment	✓	✓	✓	✓	✓				✓	✓	✓
Included WTPs	A	B1, B2, B3	D1	E1, E3, E5	F	—	—	—	L1, L2	M	N1
Benchmarking Partner for Water Conveyance	✓		✓			✓	✓	✓			
Water Supply	Surface Water [(a)]	Surface Water	Groundwater & Surface Water	Surface Water	Surface Water	Surface Water (a)	Surface Water	Surface Water (a)	Surface Water	Groundwater & Surface Water	Groundwater & Surface Water(a)

(a) Utility purchases a portion of their supply from an imported source.

Water Treatment

Santa Clara Valley Water District operates three water treatment plants — Penitencia, Rinconada, and Santa Teresa. The Penitencia Water Treatment Plant (PWTP)has a design capacity of 42 million gallons per day (MGD) and currently operates at an actual average of 19.6 MGD. The design capacity of Rinconada Water Treatment Plant (RWTP) is 80 MGD and currently operates at an actual average of 58 MGD. The Santa Teresa Water Treatment Plant STWTP) has a design capacity of 100 MGD and currently operates at an actual average of 48.2 MGD. The District currently serves 13 retail water customers.

Treatment Facilities with a Design Capacity Between 51 and 120 MGD

Location	RWTP	STWTP	A	B2	B3	D1	E3	E5	F	L1
Design MGD	75	100	90	120	60	75	60	80	60	80
Actual Avg. MGD	54	39	50	68	42.6	35.1	21	41	32	38
O&M Staff	34	19	22	28	28	16	18	18	21	241
Total Adjusted Expenditures ($000s)	$ 5,665	$ 3,183	$ 5,360	$ 6,692	$5,546	$2,630	$ 2,446	$1,800	$2,707	$7,583

Treatment Facilities with a Design Capacity Between 30 and 50 MGD

Location	PWTP	B1	E1	M	N1
Design MGD	42	45	45	50	32
Actual Avg. MGD	19.6	16.5	11	32	19.4
O&M Staff	21	28	18	27	15
Total Adjusted Expenditures ($000s)	$ 2,892	$ 3,493	$ 1,471	$ 1,958	$ 2,175

In conjunction with the District, Malcolm Pirnie has chosen four (4) parameters to measure the District's Water Treatment Plants' competitiveness against:

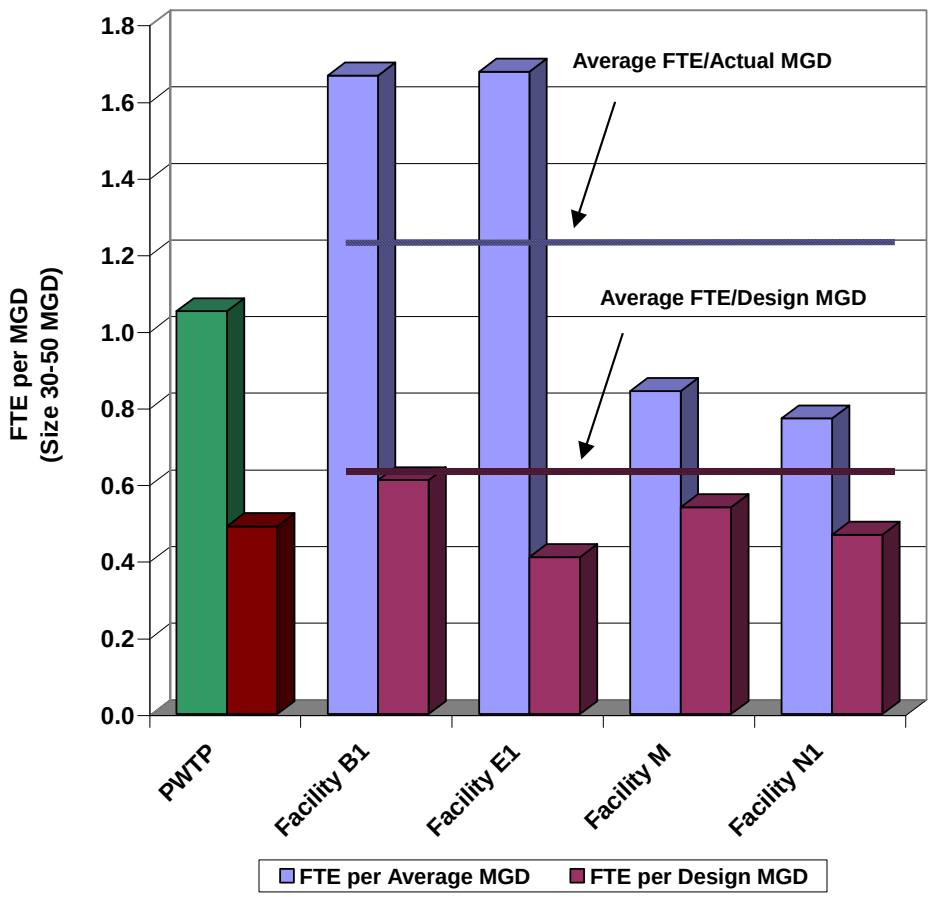
- Number of full time equivalents (FTEs) per actual average flow and design flow in million gallons per day (MGD);
- Total expenditures per actual average flow and design flow in MGD;
- Operations and Maintenance (O&M) expenditures per actual average flow and design flow in MGD; and,
- Preventive Maintenance.

Our evaluation team compared various aspects of the District's operations and maintenance performance to 12 similar public- and private-sector water treatment plants.

These plants were divided into two size ranges (30-50 MGD and 51-120 MGD) based upon design flow so that the economies of scale would not complicate the comparison. PWTP was compared to the plants in the lower range and RWTP and STWTP were compared to the plants in the higher range.

FTE Staff Per Actual Average MGD and Design MGD for Plants with Design Capacities between 30 and 50 MGD

This analysis compared full time equivalent (FTE) staff normalized per actual and design average flow in million gallons per day (MGD) for the smaller plants. PWTP has 1 FTEs for actual average MGD; comparable public plants average 1.2 FTEs/MGD per actual flow. The District has 0.5 FTEs/MGD for design flow; comparable public plants average 0.5 FTEs/MGD per design flow.



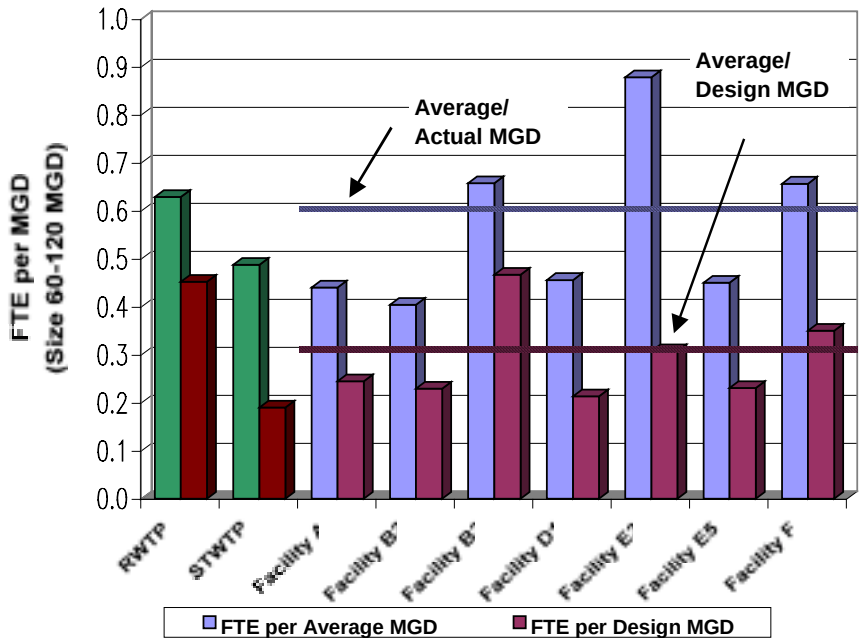
Plants with Design Capacities between 30 and 50 MGD

PWTP has 20.6 FTEs, 9.9 operators/managers, 6.7 maintenance personnel, and 4.0 other/support personnel.

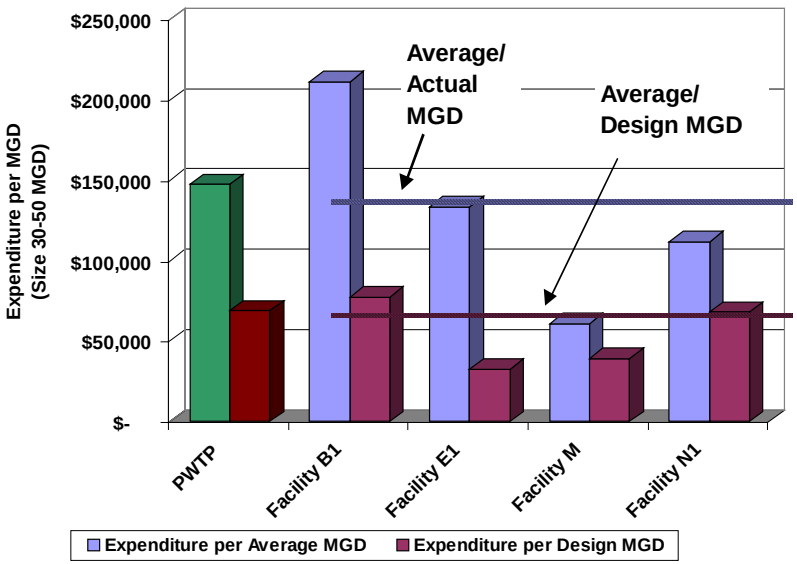
FTE Staff Per Actual Average MGD and Design MGD for Plants with Design Capacities between 51 and 120 MGD

This analysis compares full time equivalent (FTE) staff normalized per actual and design average flow in million gallons per day (MGD) for the larger plants. RWTP has 0.6 FTEs/MGD per actual flow and STWTP has 0.5 FTEs/MGD per average flow. Comparable plants average 0.6 FTEs/MGD for average flow. RWTP has 0.5 FTEs/MGD per design flow and STWTP has 0.2 FTEs/MGD per design flow. Comparable plants average 0.3 FTEs/MGD per design flow. RWTP staffing includes the District's operator training program that consists of approximately eight additional operators.

RWTP has 33.4 FTEs: 18.9 operators/managers, 11 maintenance personnel and 4.0 other/support personnel. STWTP has 19.0 FTEs: 8.7 operators/managers, 5.6 maintenance personnel and 4.7 other/support personnel.



Plants with Design Capacities between 51 and 120 MGD



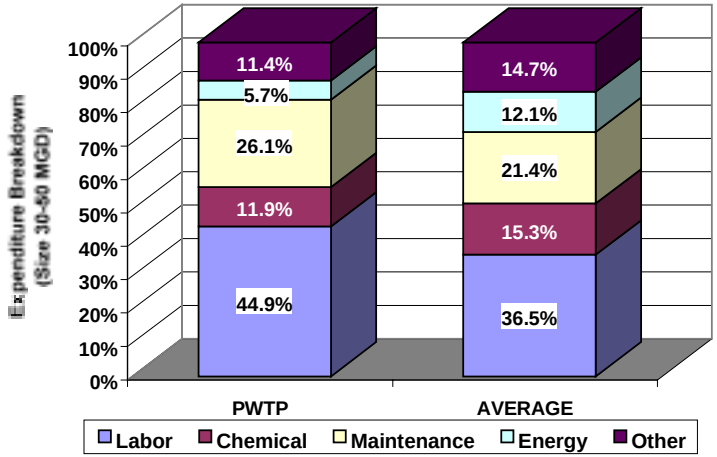
Total Expenditures for Plants with Design Capacities between 30 and 50 MGD

Total Expenditures per Actual Average MGD and Design MGD for Plants with Design Capacities between 30 and 50 MGD

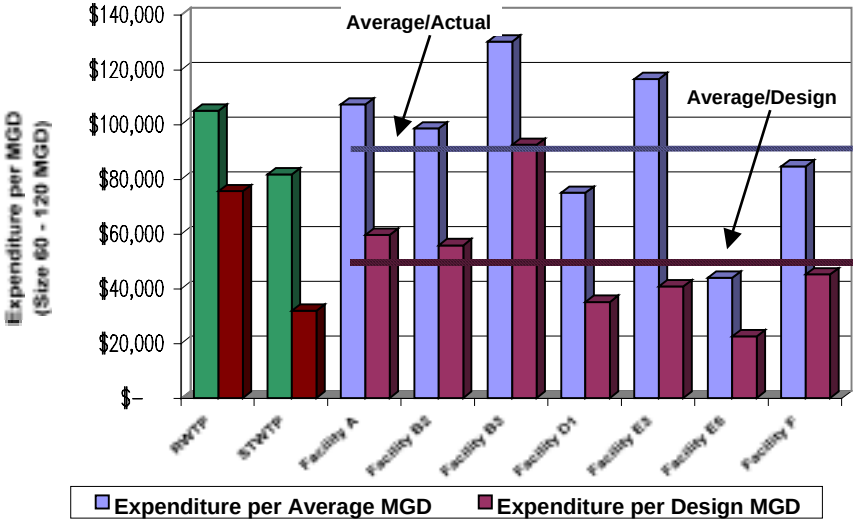
This analysis compares total expenditures normalized for actual average daily flows and design flows in MGD for the smaller plants. Expenditures include labor, chemicals, maintenance, support (e.g., electrical, mechanical), management and laboratory. PWTP is $147,000/MGD on an actual average and $69,000/MGD for design basis capacity. Public partners average $130,000/MGD on an actual and $54,000/MGD for design basis.

Budget Division for Labor, Chemicals, Maintenance, Energy, and Other Expenditures at Plants with Design Capacities between 30 and 50 MGD

This analysis compares expenditures at PWTP for labor, chemicals, maintenance, energy, and additional expenditures to expenditures at four comparable treatment plants. PWTP averages approximately 45% in labor; comparable plants average 36%. PWTP's total plant expenditures are $2,891,000; comparable plants expend an average of $2,274,000. Other costs include miscellaneous expenses such as office supplies.



Budget Division for Labor, Chemicals, Maintenance, Energy, and Other Expenditures at Plants with Design Capacities between 30 and 50 MGD



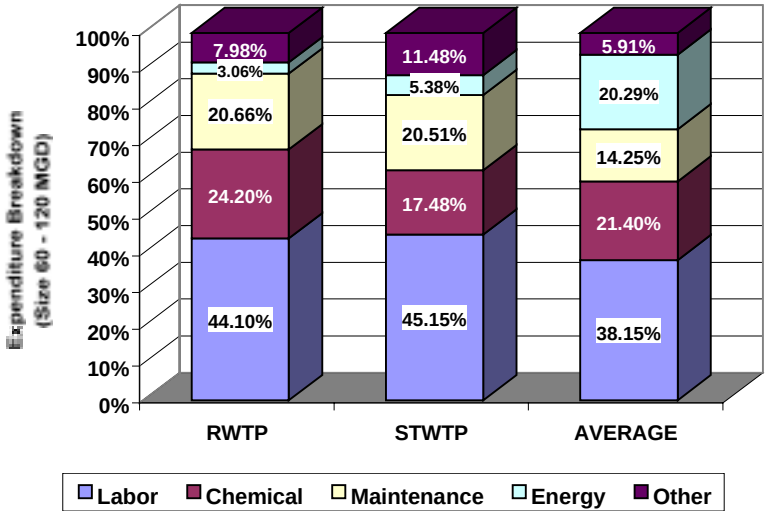
Total Expenditures Per Actual Average MGD and Design MGD for Plants with Design Capacities between 51 and 120 MGD

Total Expenditures Per Actual Average MGD and Design MGD for Plants with Design Capacities between 51 and 120 MGD

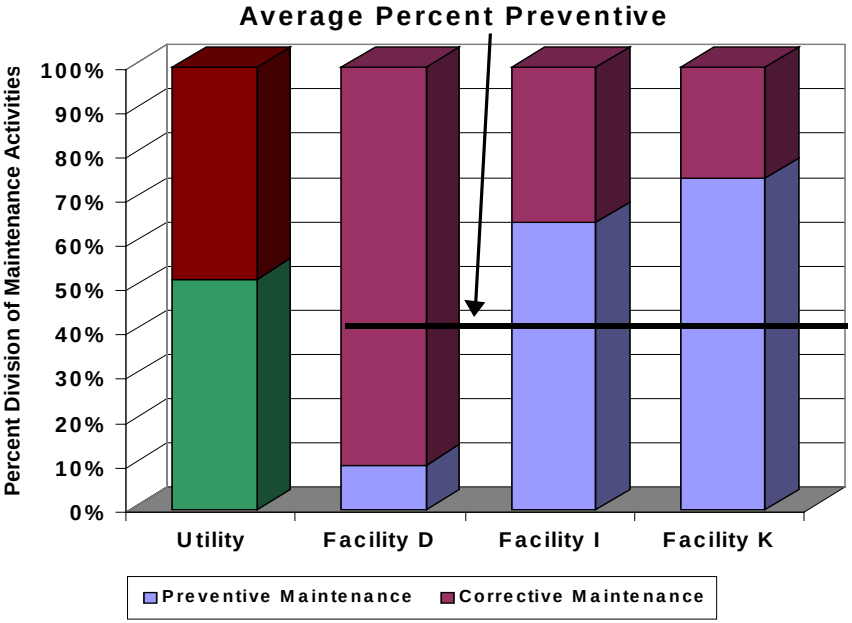
This analysis compares total expenditures normalized for actual average daily flows and design flows in MGD for the larger plants. Expenditures include labor, chemicals, maintenance, support (e.g., electrical, mechanical), management and laboratory. RWTP and STWTP expend $105,000/MGD and $82,000 /MGD, respectively, for actual flow and $76,000/MGD and $32,000/MGD respectively for design flow. Similar plants average $92,000/MGD and $48,000 /MGD for actual flow and design capacity.

Budget Division for Labor, Chemicals, Maintenance, Energy, and Other Expenditures at Plants with Design Capacities between 51 and 120 MGD

This analysis compares expenditures at RWTP and STWTP for labor, chemicals, maintenance, energy, and additional expenditures to expenditures at eight comparable treatment plants. RWTP's total plant expenditures are $5,665,000. STWTP's total plant expenditures are $3,182,000. Comparable plants expend an average of $3,883,000.



Budget Division for Labor, Chemicals, Maintenance, Energy, and Other Expenditures at Plants with Design Capacities between 51 and 120 MGD



Preventive Maintenance

Preventive Maintenance

This analysis compares the allocation of maintenance efforts (costs) of preventive/ predictive maintenance activities to corrective maintenance activities. Preventive maintenance is defined as proactive and predictive maintenance and analysis of system function. Corrective maintenance is defined as reactive and emergency maintenance. RWTP went on-line in 1967; STWTP in 1989; and PWTP in 1974. The overall maintenance split for the three plants is 59% preventative and 41% corrective. Average breakdown of maintenance activities for the partners (A, B, D, E, F, L, M, N) is 60% preventative (range: 20% to 80%), 40% corrective (range: 20% to 80%). For private firms, the average split is 78% preventative and 22% corrective.

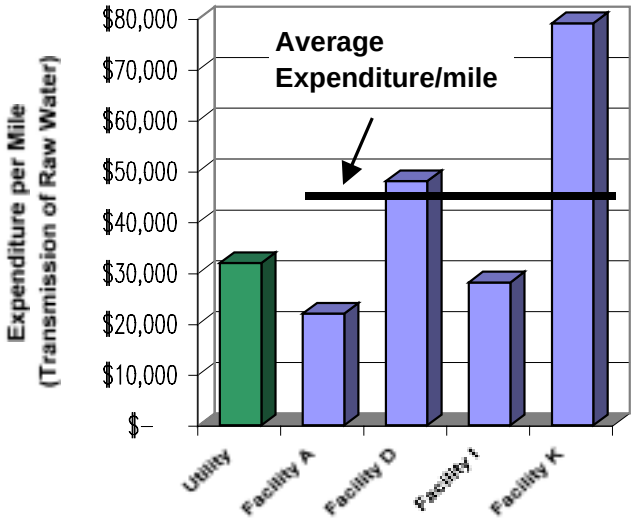
SYSTEM OPERATIONS & MAINTENANCE MANAGEMENT

The District water raw water transmission and treated water distribution system consists of 170 miles of canals, pipelines, and tunnels providing potable water to approximately 1.7 million customers. In order to measure the District's raw water transmission and treated water distribution system's competitiveness against one private and four public sector conveyance systems, Malcolm Pirnie separated piping used for the transmission of raw water from the piping used for the distribution of treated water to customers and compared three (3) benchmarking parameters:

- Total expenditures per mile of raw water transmission and treated water distribution piping;

Location	District	A	D	G	I	K
Raw Water Conveyed (MG)	53,942	14,462	1,122	6,697	186,025	79,404
Miles of Transmission Piping	103	1.21	75	0	557	131.5
% Canals	2%	0%	65%	0%	15%	0%
% Tunnels	14%	0%	1%	0%	23%	0%
% Pipes	84%	100%	33%	0%	62%	100%
Treated Water Conveyed (MG)	42,171	15,442	12,831	8,261	186,025	69,304
Miles of Distribution Piping	59	0.11	800	990	522	131.5
% Canals	0%	0%	0%	0%	0%	0%
% Tunnels	1%	0%	0%	0%	2%	0%
% Pipes	99%	100%	100%	100%	98%	100%
FTE Staff – Water Transport	28	0.2	75	16	200	39
Total Adjusted Expenditures ($000s)	$ 4,015	$ 21	$7,000	$7,529	$40,849	$19,541

*Raw water conveyed for the District includes raw water delivered to treatment plants and raw water used for groundwater recharge.



Total Expenditures Per Mile of Raw Water Transmission Piping

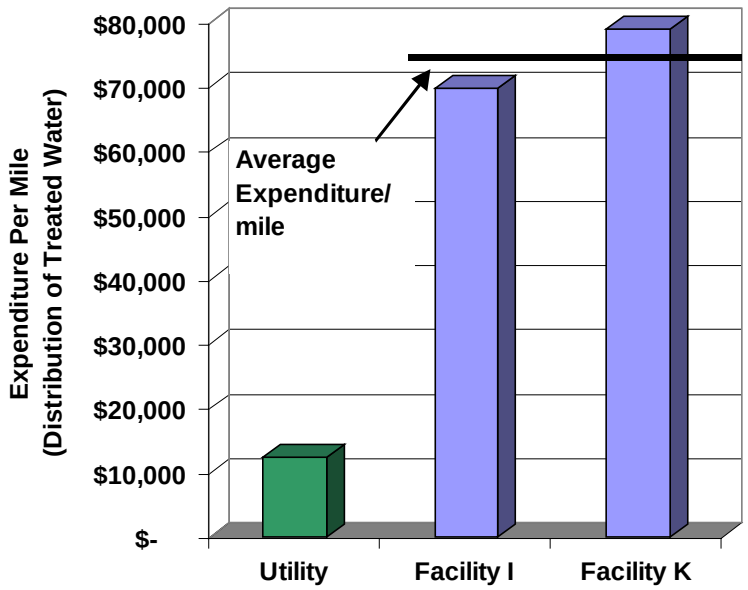
- Preventive maintenance vs. corrective maintenance; and,
- Percent of lost and unaccounted for water from raw water transmission and treated water distribution piping.

Total Expenditures Per Mile of Raw Water Transmission Piping

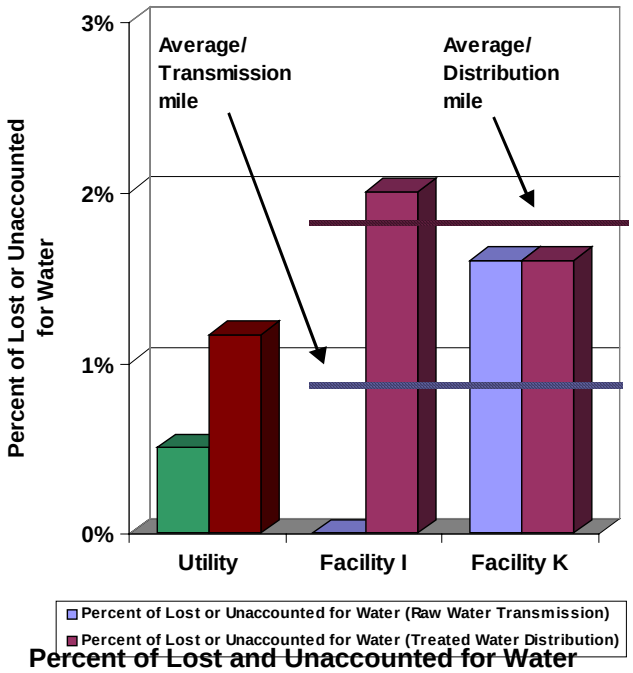
This analysis compares total expenditures to operate and maintain piping networks normalized for miles of piping for the transmission of raw water (i.e., capital and water supply costs are *not* included). The District's total expenditures are based on FY98/99 and include operation, maintenance, engineering, and laboratory services. The District's Utility spends $32,000 per mile of raw water transmission piping; comparable systems spend an average of $44,000 per mile of raw water transmission piping.

Total Expenditures Per Mile of Treated Water Distribution Piping

This analysis compares total expenditures to operate and maintain piping networks normalized for miles of piping for the distribution of treated water (i.e., capital costs are *not* included). The Utility's total expenditures are based on FY98/99 and include operation, maintenance, engineering, and laboratory services. The Utility spends $12,000 per mile of treated water distribution piping; comparable systems spend on average $74,400 per mile of treated water distribution piping. (Note: Utilities I & K convey water to primarily wholesale customers.)



Total Expenditures Per Mile of Treated Water Distribution Piping



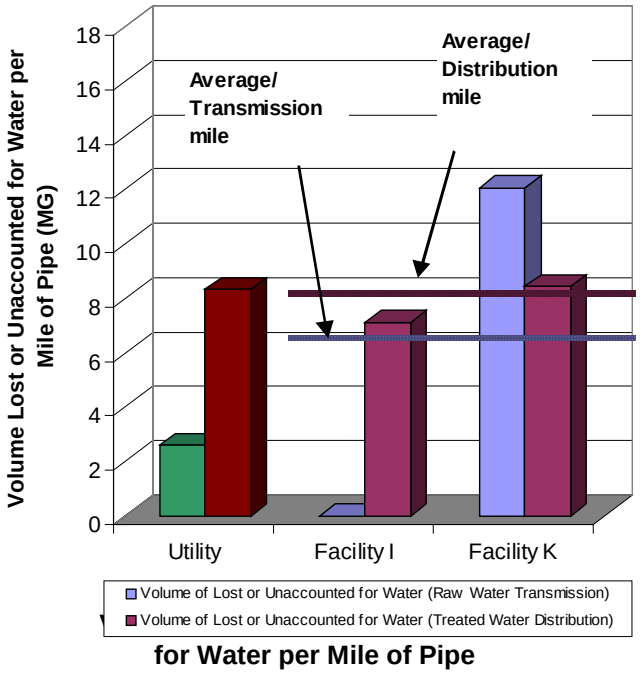
Percent of Lost and Unaccounted for Water

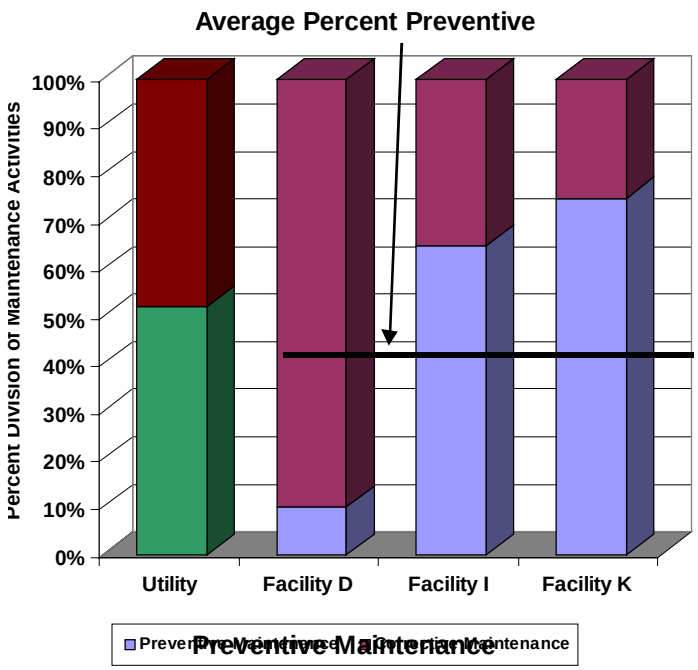
Percent of Lost and Unaccounted for Water

This analysis compares the Utility's lost and unaccounted for water for raw water transmission and treated water distribution systems. Percentages represent unbilled water due to conveyance leaks, evaporation and unmetered usage. Meter accuracy is ± 2%. In 1998, 0.4% of the Utility's water was lost or unaccounted for from the raw water transmission piping and 1.2% was lost from the treated water distribution piping. Percent of lost and unaccounted for water at partner utilities averaged 0.8% for raw water transmission piping and 1.8% for treated water distribution piping.

Volume of Lost and Unaccounted for Water per Mile of Pipe

This analysis compares the Utility's lost and unaccounted for water per mile of raw water transmission and treated water distribution pipe. Volumes represent unbilled water due to conveyance leaks, evaporation and unmetered usages. In 1998, 2.6 MG of the Utility's water was lost or unaccounted for per mile of raw water transmission piping and 8.3 MG was lost per mile of treated water distribution piping. Volume of lost and unaccounted for water at partner utilities averaged 6 MG for raw water transmission piping and 7.8 MG for treated water distribution piping.





Preventive Maintenance

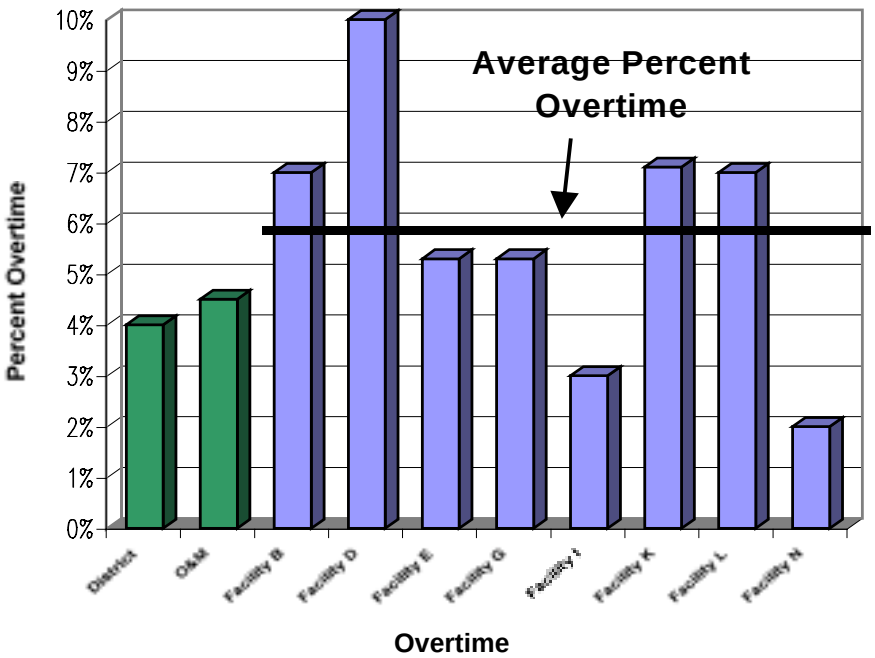
This analysis compares the division of preventive and corrective maintenance for raw and treated water conveyance. Preventive maintenance is defined as proactive and predictive maintenance and analysis of system function. Corrective maintenance is reactive and emergency maintenance. The combined maintenance split for the District's raw water transmission and treated water distribution system is 52% preventive and 48% corrective. Average maintenance division for the comparative partners is 37.5% preventive (range: 10% to 75%) and 62.5% corrective (range: 25% to 90%).

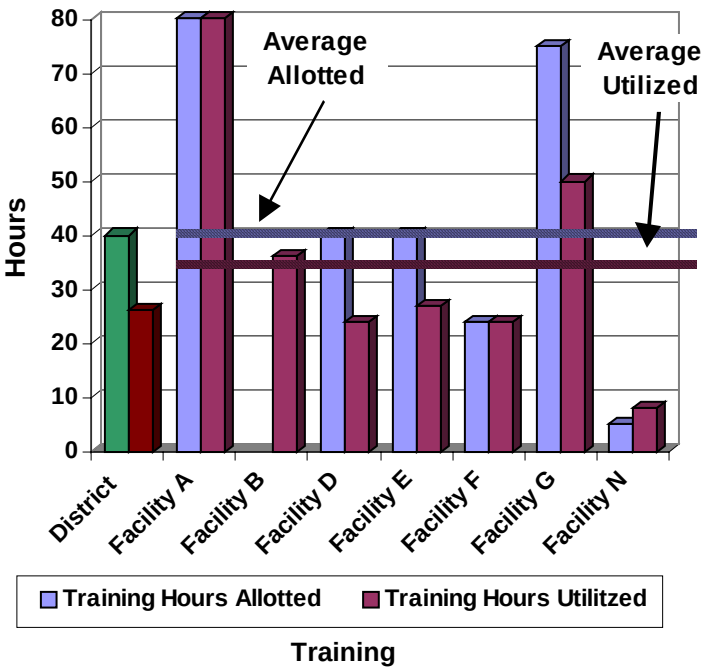
HUMAN RESOURCES

In conjunction with the District, Malcolm Pirnie chose two (2) parameters to measure the utility's overall human resource performance: Overtime and Allotted and Utilized Training.

Overtime

This analysis compares the District's overtime ratio to other comparable utilities. The overtime ratio is based on total annual overtime hours as percentage of total annual productive hours (total hours – vacation time – sick time – holidays). Exempt employee overtime is not included. The District-wide overtime is 4%, Utility's O&M Group overtime is 4.5%. The range in overtime rates among the various District organization units is 0.5% to 12%. The average overtime percentage is 5.8% among the comparative utilities (range: 2% to 10%).





Training

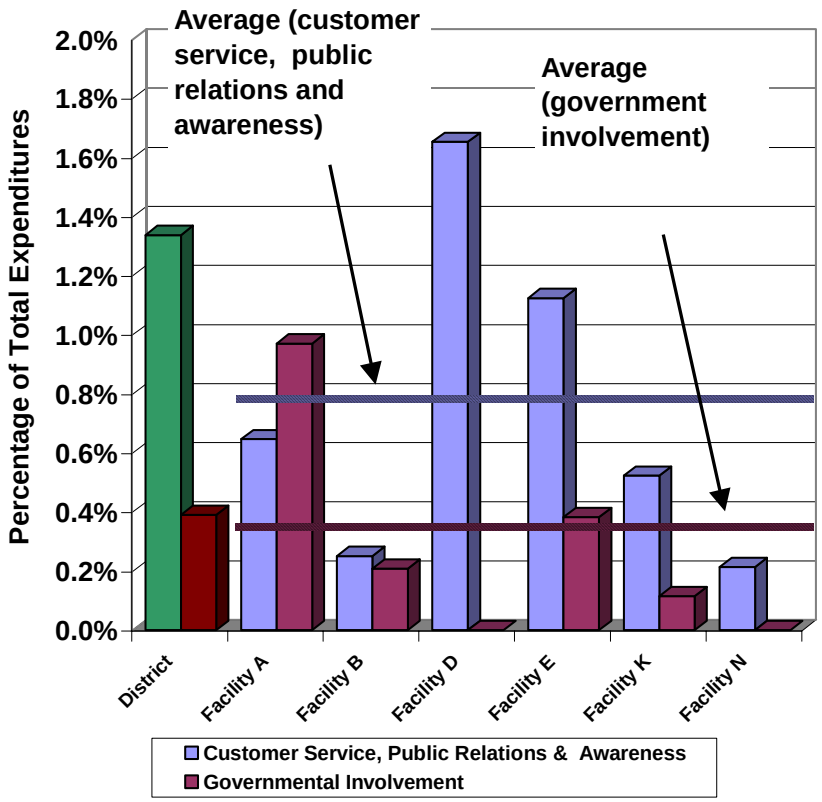
This analysis compares the District's average employee budgeted and utilized training hours to other comparable utilities. Training hours represent general and/or technical training hours.

The District allots, on average, 40 hours of training per employee and 26 hours of training are used per employee. Comparable facilities allot 40 hours of training per employee and 36 hours are utilized. The District also provides 30 hours of additional safety training hours per average employee; comparable utilities provide an average of 25 hours of additional safety training hours.

CUSTOMER, COMMUNITY, & GOVERNMENT RELATIONS

Santa Clara Valley Water District has a strong commitment to protecting the environment and the health and safety of its community. Malcolm Pirnie compared the District's role as an environmental steward as it relates to the overall competitiveness with comparable utilities for the following parameters:

- Public Information and Community Outreach
- Government Expenditures



Public Information / Community Outreach / Government Expenditures

Location	District	A	B	D	E	K	N
Population Served	1,700,000	250,000	637,000	200,000	1,200,000	2,622,948	282,400
Public Information/ Communitiy Outreach Expenditures ($000s)	$ 1,595	$ 35	$ 701	$ 2,000	$ 1,838	$ 1,670	$ 60
Public Information/ Communitiy Outreach FTEs	3.5	0.2	12.0	20.0	10.0	10.9	0.0
Governmental Relations Expenditures ($000s)	$ 368	$ 53	$ 582	$ -	$ 625	$ 366	$ -
Governmental Relations FTEs	2.3	0.3	8.0	0.0	5.0	1.3	-
Total Adjusted Expenditures ($000s)	$ 94,365	$ 5,448	$ 280,000	$ 121,000	$ 142,000	$ 319,300	$ 28,100

Public Information/Community Outreach/Government Expenditures

This analysis compares the District's annual expenditures for public information, community outreach, and involvement in state and federal legislative processes as a percent of total expenditures.

The District spends 0.39% of their budget ($368,000) on government expenditures and comparable utilities spend an average of 0.33% of their budget ($393,000) on government expenditures. Government expenditures and involvement includes costs associated with legislative lobbying, review and tracking activities at the local, state and federal levels.

The District spends 1.34% of their budget ($1,260,000) on public information and community outreach. Comparable utilities spend an average of 0.74% of their budget ($1,050,000) on public information and community outreach. Public information and outreach expenditures include $827,000 for water conservation program and services. The District spent an additional $5,000,000 on Low-Flush Toilet Rebate Program and $333,000 for low water use washing machines in 98/99 as part of its water conservation efforts that is not included.

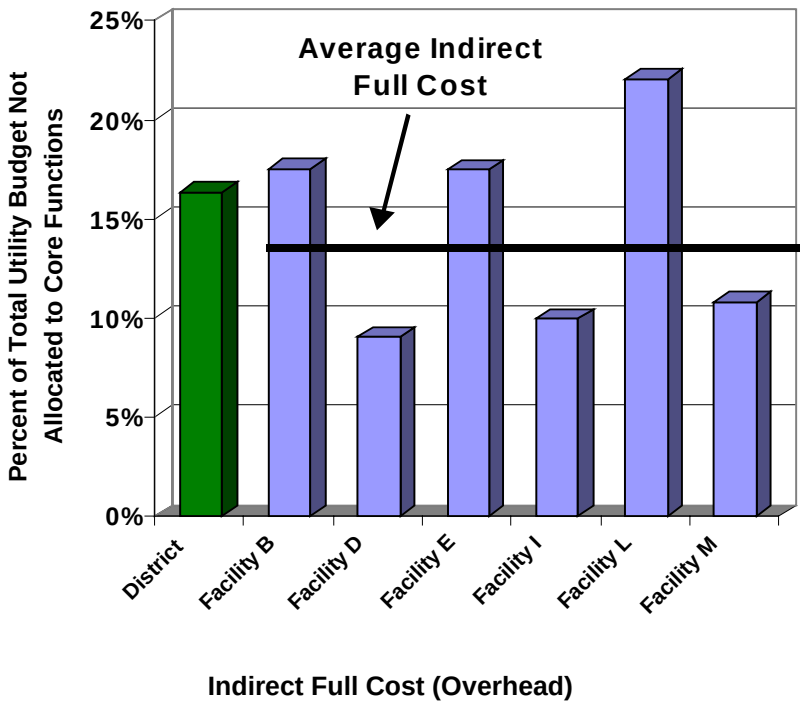
BUSINESS MANAGEMENT & PLANNING

The District's Water Utility Enterprise maintains a positive working environment for a staff of approximately 261 full time equivalent employees. To compare the District's cost of managing this work force against similar facilities, Malcolm Pirnie evaluated the following benchmarking parameter:

- Indirect Full Cost (Overhead) Rate: Indirect Expenses/ Total Expenses (%).

Indirect Full Cost (Overhead)

This analysis compares indirect expenditures as a percentage (%) of total expenditures. Indirect Full Cost (overhead) is defined as the percentage of FY 98/99 total utility budget not allocated to a core utility function (e.g., treatment, customer service, and distribution). The District's Indirect Full Cost Rate is of 16.3% and is above the average of 14.4% for the partners.



CONCLUSIONS & RECOMMENDATIONS

Conclusion and recommendations are provided at the beginning of this section.

Santa Clara Valley Water District

SECTION 4 – EFFECTIVE PRACTICES REVIEW AND PERFORMANCE ASSESSMENT

INTRODUCTION

The goal of the District Water Enterprise Performance Audit is to review business goals, resources, and use of technology and actual work practices in order to acknowledge successes and to identify future opportunities for improvement. This section presents the findings of the Performance Audit in the following segments:

Board Governance. The Board Governance function deals with the tools in place to monitor management's fulfillment of the Board's strategic Governance Policies.

Water Operations. The Water Operations Department provides transmission of raw water supplies; groundwater pumping services for private well owners, and treated surface water to a number of retail water utilities in Santa Clara County.

Water Quality. The Water Quality functions cover all water quality issues associated with surface water and groundwater.

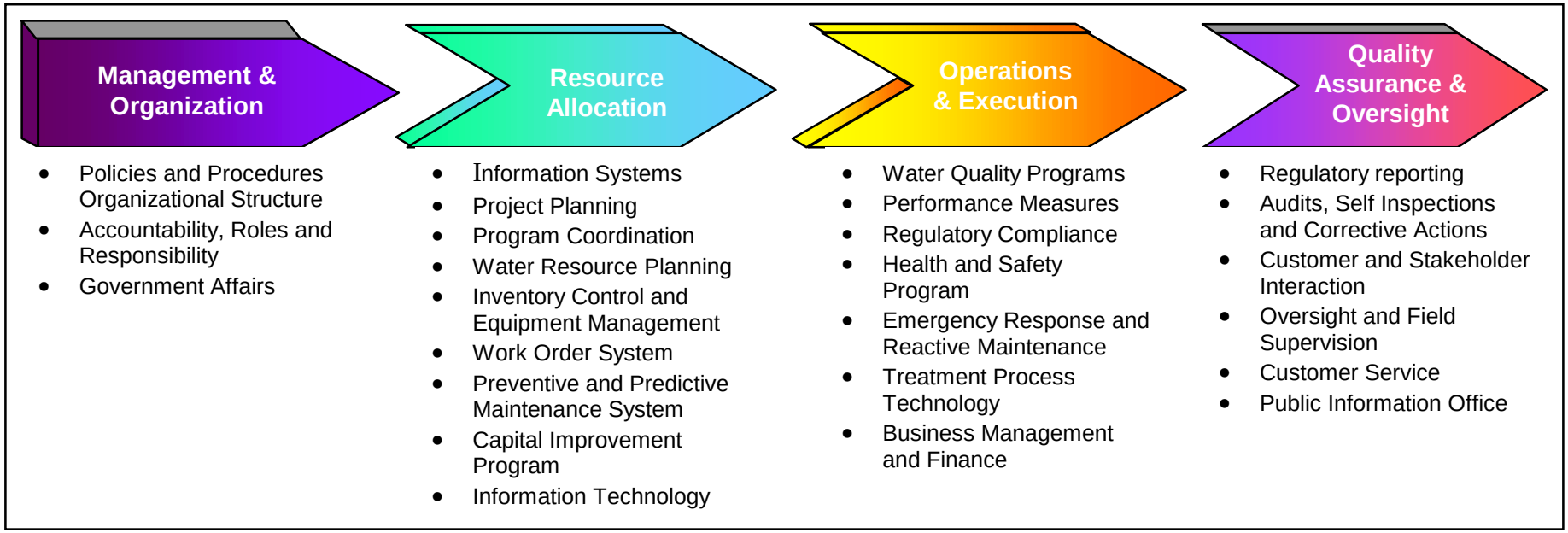
Water Resources Planning. The Water Resources functions include all planning and capital projects related to the delivery of raw water from federal, state and local sources.

Community and Government. The Community and Government function includes activities associated with the Public Information Office and all local, state and federal policy and regulatory review.

Business Management and Finance. The Business Management and Finance consists of all financial support functions including utility budget development and monitoring, revenue recovery, and capital financing.

Capital Improvement Program (CIP). The CIP function includes the budgeting, scope development, prioritization and project management functions associated with significant infrastructure projects.

Our audit includes an evaluation of the degree of integration of groundwater and surface water supplies, as well as the extent of oversight of supply contracts with the State of California and the Federal Central Valley Project. In order to assess the District's performance of these functions, the team interviewed approximately 100 District staff and reviewed supporting documents. Our observations and findings are general in nature, and are not



based on a detailed review of individual programs, interviews with other water agencies, or comprehensive interviews with all staff that create, manage, or use such data.

METHODOLOGY AND OBJECTIVES

Our performance evaluation framework compares the District's activities to public and private best industry practices on a macro scale. Our evaluation team drew upon knowledge of best practices from the water utility industry and other similar industries, as well as direct experiences with other private and public water systems to create a review framework containing key elements for effective and efficient water quality and water resources planning activities within water utilities. The performance evaluation work plan involves eight elements as listed below. These elements provided the basis for the effective practices analysis.

- Conduct Kickoff Meeting
- Perform individual interviews
- Compile facility documents, reports and procedures
- Review key program documents
- Validate findings
- Document findings and observations
- Compare District's performance to similar public and private sector operators
- Identify best practices and opportunities for improvement

In general, the Performance Assessment focus areas can be grouped into four major components of the utility: Management and Organization; Resource Allocation; Operation and Execution; and Quality Assurance and Oversight. The overall assessment evaluated each component by evaluating the policies, procedures and work execution activities as listed below.

While conducting the Performance Assessment, our team interviewed approximately 100 management and staff members associated with the various functions of the District to gain specific insights into the daily activities and work practices. Specific questions were asked based upon the interviewee's discipline or utility function. Follow-up interviews were conducted as needed to validate key issues or to further explore preliminary findings and observations. All specific discussions during the interviews will remain confidential among our Malcolm Pirnie assessment team.

Our assessment team also conducted a review of key documents and budgets. Strategic planning documents, organizational structures, training plans, and performance metrics were reviewed to understand the District's general strategic direction, the specific activities being undertaken, and the responsibilities for these activities.

Our rating system is subjective and based solely on our evaluation team's inquiry into each functional area under review. The relative scores are provided to rank the effectiveness of existing policies, procedures, and work practices. The scores provide a relative measure of effectively meeting desired competitiveness results. Our criteria for determining whether a process, system, or element is "effective" is based upon our team's subjective opinion on whether the technique employed has "a positive impact on productivity or cost, in alignment with the Water Enterprise's business goals of becoming more competitive". Our opinion includes some anticipation of future circumstances and regulations. The individual scores represent numerical averages for the specific elements under review. The applicable range of scores and performance indicators used to measure District's performance are defined as follows:

Efficiency and Effectiveness Ratings

Score 5	**Best-In-Class** – Innovative, state-of-the-art practices or systems that represent demonstrated best practices and exceed industry standards or have a significant positive impact on operation or maintenance productivity or cost.
Score 3	**Effective** – Typical utility practices or systems that conform to general industry standards, reflect good management practice, or otherwise have a positive impact on operation or maintenance productivity or cost.
Score 1	**Ineffective** – Systems or practices that do not meet industry standards, performance expectations, or otherwise have a negative impact on operation or maintenance productivity or cost and represent significant room for improvement..

This evaluation identifies areas of excellent performance and areas of potential improvement. The most significant opportunities were identified using the information compiled during the performance evaluation and while working with the District. These opportunities have been prioritized and a strategic action plan is presented in Section 5.

Board Governance

INTRODUCTION

Over the past year, the Board of Directors has changed its style of governance of the District to the Policy Governance Model, developed by John Carver. The central theme of Carver's Policy Governance Model is the distinct separation of governance from management. Carver clearly delineates each by describing governance as the process of defining the strategic, value oriented goals of the organization; whereas, management is the operational process of achieving those stated goals. In choosing the Carver model, the Board has committed to focusing on the process of governance, thereby leaving all managerial issues of the District to the CEO/GM. In the Carver Policy Governance Model, the key link between the Board and the General Manager is the systematic monitoring of performance measures, that allows the Board to assess the performance of the General Manager against stated goals in a timely and accurate manner. However, based upon our review of the most recent monitoring reports, the Board does not currently have appropriate established performance measures to monitor the on-going success or failure of several key parameters. The breadth of current District performance measures is quite limited.

This section of the Performance Audit Report details essential components for effective monitoring, the strengths and weaknesses of the District's current methods of monitoring, and suggests several action items for more effective monitoring. In order for the Board to adequately monitor the General Manager's performance, the District will need to create a set of top-down performance measures that can be effectively communicated to the individual Board members, as well as District staff. We also recommend that the performance measures be contained on the District's Intranet website, which can be linked to the applicable District databases. By utilizing web technology, the Board will have the proper tool with which to monitor the performance of the General Manager, as well as provide feedback to staff.

SUMMARY OF THE CARVER MODEL

The two main types of documents used in Carver's Policy Governance Model are the Ends Policies and the Executive Limitations Policies. Through these two types of policies, the Board can precisely defines its expectations of the General Manager.

Ends Policies - The Ends Policies are written by the Board to delineate what the General Manager is to accomplish for the District, its customers and the general public. Deciding what benefit the organization is supposed to produce and who or what is the recipient of that benefit begins this process and at what cost. The formalization of these ideas becomes the Board's Ends Policies. They state the strategic objectives that the Board wants to achieve, without mention of how the objectives are to be met.

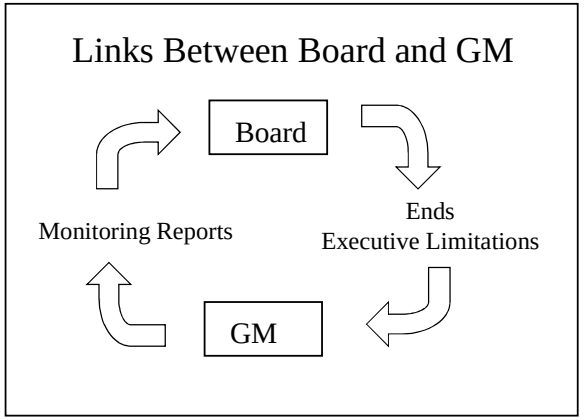
Executive Limitations Policies - Executive Limitations Policies documents what actions by the General Manager the Board will not tolerate**.** Instead of telling the General Manager, and hence the Staff, specifically how to achieve the goals set forth in the Ends Policies, Carver states that the Board should only stipulate actions that it will not tolerate the GM to commit. By stating only what is not allowed the Board implicitly approves any action not covered by the Executive Limitations. This reduces much work for both the Board and GM by eliminating approval processes for every action taken by the GM.

Board Governance (continued)

Both Ends and Executive Limitations are policies that the Board must decide. Together, they provide a solid framework regarding the purpose of the District, as well as the tolerance of the Board for certain District actions.

MONITORING

Although it seems like the Carver model requires a giant leap of faith to be taken by the Board in granting the General Manager broad latitude in decision-making, this need not be the case. As stated earlier, the key to maintaining effective results while providing management latitude is the use of effective monitoring tools. Effective monitoring requires *a priori* decisions as too what variables need to be monitored and what results are acceptable, as well as what results are commendable and which are unacceptable. Up-front establishment of specific performance goals is vital to letting the General Manager know exactly what is expected from the executive office, but is also vital to letting the Board know if the General Manager is succeeding or failing; and consequently, if the organization as a whole is successful. By establishing timely and accurate monitoring criteria and methods, the Board can be assured that it directs district successes and is informed regarding issues that need improvement.



FACTORS INVOLVED IN MONITORING

There are several key factors that are important to address in any type of monitoring report:

- Frequency
- Content
- Anticipation of Problems
- Handling of Exceptions/Violations
- Cost Effectiveness
- Format/presentation

Frequency

One very basic, yet important, aspect of monitoring is the frequency of when performance reports are produced by the staff. When numerous measures are covering every key policy of the District's business, it makes sense that not all policies be monitored on the same frequency. Of particular note is the distinction between the Ends Policies and the Executive Limitations Policies. Due to their substantially different nature, the two policies should be monitored at different intervals. Since Ends Policies deal almost exclusively with operational output the District is providing to its customers, it makes sense for Ends Policies to be monitored quite frequently, either monthly or perhaps quarterly. Due to the less quantifiable nature

of the Executive Limitations Policies, most should be monitored on an annual or semiannual basis. Executive Limitations Policies regarding District finances, however, should be monitored quarterly.

Content

Ends Policies and Executive Limitations Policies document how the District should be operated at an executive level. It makes sense then that the monitoring be taken right out of the Policies themselves. The best way to monitor the majority of the Ends Policies is through the establishment of performance measures. All of the current Ends Policies have one or more simple numerical measures that can be measured on a periodic basis to monitor the General Manager's performance. For example, tracking the cost of treating each unit of water, as in dollars per acre-foot of treated water, monitors the cost-effectiveness of the District's water operations. However, along with each measure, an associated goal and trending of data also needs to be developed. Without specific goals and adequate trending analysis, measures only serve to record past District events. With goals and trending histories, measures can be used to forecast future developments. It is important to note that goals for many measures can and should vary with time. Some performance goals may also be created that serve as "stretch" goals to engender enhanced staff performance relative to recent history. In the prior example of the cost-effectiveness of water treatment, if regulatory standards become more stringent, then it will likely cost the District more money to treat the same amount of water. In order to accurately judge District performance, it will be necessary to accordingly adjust the goal of treated water cost per unit in light of the new regulations.

Anticipation of Problems

If monitoring reports were used solely to focus on past events, their usefulness would be limited. However, using trending analyses effectively will allow the monitoring reports to become relative accurate predictive tools of future performance. By carefully examining historic performance, representative trends can often be seen that will likely predict the future outcomes. For example, if the total cost of treating water has been historically going up for several years in a row, the trend will likely continue, unless some significant change or supervening cause occurs to alter the trend. Also, trends can help staff and Board to identify potential problems before they become overly burdensome. For example, if the number of customer complaints continues to rise over time, the District may wish to further investigate the specific nature of the stated complaints in order to gain quicker control of a potentially increasing problem. If the situation is identified quickly, many customers may be spared from the specific problem.

Handling of Exceptions/Violations

Since reporting of monitoring results does not occur on a continual basis, a natural lag time is created between events and the Board's knowledge of them. Though in most cases this is acceptable, there are many instances where it is not. For example, if there is a violation of a water quality regulation, the Board will want to know of it immediately. It is generally assumed that no violations will occur, and this can be verified with each monitoring report. However, if an incident does occur, there should be immediate notification to the Board of the incident, how it happened, what

was done to correct it, and how future incidents will be avoided. This incidental report will then be added to the monitoring report as a record of the violation and how it was mitigated. There should also be discussion on what steps will transpire to prevent future similar occurrences.

Cost Effectiveness

Although it is extremely important that Board be well aware of the status of the District, it is also important that such monitoring not be a burden on District resources. Specific performance measures should be chosen that cost-effectively provide adequate information to the Board. The selected measures should roll up from staff inputs of currently available District data. Ideally, monitoring reports will require very little gathering of new data. After identifying the key information that is readily obtainable in the normal course of conducting business, an information technology solution can then be effectively utilized to compile the information and present it in the appropriate manner.

Format/Presentation

The format and presentation of the monitoring reports are crucial. Reports that contain valuable information, yet are poorly presented, are ineffective. Most of the Ends Policies are somewhat quantitative in nature. As such, using graphical formats allows for effective presentation not only of current performance, but also of past performance and forecasting likely future outcomes. Board goals should be pre-established and depicted clearly on each graph. Comparison of performance to goals allows the readers to know how the District has performed in the past, and the anticipated problems and/or successes.

Many of the Executive Limitation Policies do not lend themselves well to graphical presentation. Many of them are answered by a simple affirmative or negative (yes or no) answer. Each either relay compliance or non-compliance to each particular Executive Limitation. In this case, a table preceding the specific statements becomes very useful. By using a summary table, each Board member can quickly see if the General Manager was successful or out of compliance with any of the Executive Limitations.

Another key formatting issue is the physical media through which the reports are presented. Currently, Board reports have all been presented in a bound hardcopy format. One simple improvement is to present each report on a CD or disk. In this way, the report could contain different layers of information, to accommodate the different interest levels of each Board Member. A better option is to have all of the information available on the Internet. The website would be linked to all the databases containing information pertinent to the monitoring reports. Those interested solely in the overall performance can stop at the first layer of measures. Those who are interested in any particular category can search for more detailed information. The databases would be linked to various presentation formats. This information would be available on a more timely basis, with report updates occurring whenever each database is scheduled for updating.

REVIEW OF CURRENT REPORTS

After thoroughly examining all of the reports regularly received by the Board, Malcolm Pirnie has concluded that the Board does not currently receive the appropriate information to concisely and effectively monitor the General Manager's completion of the Ends Policies and compliance with Executive Limitations Policies. Specific issues with the current reports are:

- Cumbersome nature of reports
- Text based nature
- Achievements versus goals
- Lack of audience focus

Cumbersome Reports

The majority of the current reports are far too cumbersome for the Board members to use as effective monitoring tools. From the *Water Utility Enterprise Report* to *Organizational Performance*, *General Manager's Report to the Board*, and even to the new *Quarterly Budget Status Report*, there is an overarching tendency to include a lot of in-depth, managerial information. Though some will argue that one can never have enough information, it is important to properly organize it in a format that is responsive to the Board's specific needs. By having multiple layers of data presentation, Board Members can choose exactly how much detail they wish to see. All of the pertinent information will be included in the top-most layer, but if further examination is desired, the information can easily be accessed.

Report	Financial	Water Utility	Water Resources	Administration	Engineering
Quarterly Status Report	x	x	x	x	x
Quarterly Reports of Investments	x				
Key Projects for Priority Issues - Bimonthly	x	x	x	x	x
Organizational Performance, Annual GM Report to Board		x	x	x	x
Water Utility Enterprise Report	x	x	x	x	x
Review of 90-Day Board Members Requests List					
Comprehensive Annual Financial Report for Fiscal Year	x				
Annual Record of Water Production and Groundwater Charges for Fiscal Year	x		x		
Quarterly Report of Recruitment and Selection Activity				x	
Certification Showing Publication of Ordinances During Preceding Calendear Year Has Been Duly Completed				x	

Text-based format

All of the current reports rely heavily on text and use little graphical information. Two exceptions are the Fund Financial Summaries section of the new *Quarterly Budget Status Report* and the Water Requirements and Supplies section of the *Water Utility Enterprise Report*. The former report contains graphs for each District Fund, along with current, year-to-date, and previous year's revenue, operating outlays, and capital outlays. The Water Requirements and Supplies section of the *Water Utility Enterprise Report* contains graphs for both water use and water supply with multi-year

trends and forecasts. Other than these and a few other exceptions, the current reports to the Board tend to be very text heavy. Unfortunately, this results in documents that are time intensive both to produce and to read. In terms of monitoring, text should be limited and to the point. The real factual information should be in graphical format to allow trending and comparison of performance to goals.

Achievements versus goals

Though the focus of many of the reports tend to be actions that the District has accomplished, rarely is anything said about what the original goals were. *Organizational Performance, General Manager's Report to the Board* is filled with achievements which all relate to the Priority Issues, the predecessors to the Ends Policies. These achievements are important and serve as good incidental information for both Staff and the Board. However, they are not adequate for monitoring purposes. With the establishment of performance measures associated with each of the Ends Policies it will be much easier to develop and monitor against specific pre-defined goals.

Lack of Audience Focus

All three of the above concerns boil down to one issue: the audience for whom the reports are intended. *Organizational Performance, General Manager's Report to the Board*, is obviously made for the Board but, others such as the *Water Utility Enterprise Report* and the *Comprehensive Annual Financial Report* are actually authored with a different audience in mind. As such, their usefulness for Board monitoring of the General Manager's performance is significantly limited. What is needed is a report that is specifically made for the Board to monitor the General Manager's performance on a monthly, quarterly or annual basis.

Board Governance (continued)

RECOMMENDATIONS FOR IMPROVEMENT:

Specific Reports to the Board

The Board should be provided with a temporal series of specific documents that will combine to a concise, comprehensive compilation of Board driven performance measures. These reports should include details of the status, trend, and goal for each measure identified to monitor the Ends Policies and Executive Limitations Policies. Creation of such periodic reports is essential for the Board's ability to quickly assess the General Manager's performance. By specifically addressing each of the Ends Policies into a specific, measurable quantity, both the Board and the staff can significantly decrease and simplify the amounts of time, energy, and uncertainty involved in monitoring the General Manager's performance. Each measure should be either one or a series of graphs that can be plotted over time to show a trend.

Measurable Goals

The Board currently has few established measurable goals for many of their Ends Policies. In addition to the creation of performance measures, it is essential for the District to establish goals for each measure. With goals, performance measures are predictive tools, which can identify both current status and future trends. Without goals, measures are nothing more than a documented history of one specific area of District activity.

Graphical/Visual Format

The Board currently receives very little information in graphical format. This is caused by the lack of performance measures or other information that is conducive to being represented in graphical form. Graphical presentations are the easiest and best way to present performance measures. The use of graphs allows for immediate and simple comparison against both the stated goal and against past performance.

Organization of Information

The quantity and level of information that the Board currently receives is too cumbersome for General Manager monitoring purposes. Most of the current reports are very in-depth and managerial in nature. Few of the current documents portray a concise and accurate picture of District performance. However, we understand that several Board Members may wish to examine specific areas of District performance in greater detail. To be accommodating to the specific Board audience, it is essential to have multiple layers of information available for review. The first layer should be a clear, concise snapshot of current District performance to goals, along with trends and future forecasts. This top layer presents the agreed upon performance measures in graphical or tabular format, and where appropriate through text to describe exceptions or anticipation of problems. By using the appropriate performance measures, lots of information can be reduced to one or two pages for each Ends Policy. By then limiting the total number of measures the clarity of the entire report can be improved. The second and deeper layers of information provide the supporting detail.

Though it will not be necessary for Board Members to examine this information on a regular basis, detailed information will be available when desired.

Suggested Performance Measures

The Board's Ends Policies should be used to establish the General Manager's performance measures and established goals. The Board's performance measures should be a direct extension of the Ends Policies. Accordingly, the following table lists specific examples of the Board's Ends Policies and the corresponding measures that can quickly and accurately judge the General Manager's performance with respect to each Ends Policy.

Ends Policy	Performance Measure
1.1 There is a reliable supply of healthy, clean drinking water.	Water Quality Complaints
1.1.1 The water supply meets or exceeds all applicable WQ Regulatory Standards in a cost-effective manner.	DHS Drinking Water Violations and Notifications
	Dollar/Acre-foot of treated water
1.1.2 The water is supply is reliable to meet current demands.	Water Restriction Ordinances
1.1.4 There are a variety of water supply sources.	Percent contribution from each source
1.1.5 The GW basins are aggressively protected from contamination and the threat of contamination.	LUST cases closed
	Production wells lost to groundwater contamination
	Wells previously lost to contamination returned to production
1.1.6 Water recycling within Santa Clara County is expanded.	Percent of Water Production Recycled
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.	Cost of Damage to Homes, Schools, and Businesses due to Flooding and Erosion
1.2.2.3 Groundwater supplies are sustained.	Percent Aquifer Storage versus Capacity
2.1.1.1Mitigation for the adverse impacts of District activities are identified.	Annual list to Board of identified opportunities for enhancement, restoration, mitigation
2.1.1.2 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.	Annual list to Board of identified opportunities for enhancement, restoration, mitigation
2.1.1.3 Mitigation, enhancements, or restorations are implemented when determined appropriate by the board.	Acres of Mitigation, enhancement, and restoration
2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.	Total miles of trails/Total acres of open space
	Complaints from property owners

COMMUNICATION OF INFORMATION

The Board currently receives a series of bound copies of each report, all presented at different times. Due to the nature of the proposed new monitoring reports, it makes sense to progress to a different method of conveying the information. To accommodate all of the monitoring data in one place and to present it as an interactive multi-layer report, we recommend that an electronic format be used. The ideal format is a web-based, real time, on-line format linked to current District databases. Such a format would provide the following benefits:

- Capability of handling large amounts of information

Board Governance (continued)

- Remote access
- Real time access
- Easy to update
- Multi-layer features
- Graphical
- Cost effective
- Communication with Staff and Community

A web-based format allows for the easy integration of large amounts of information. Due to the number of performance measures that will be developed, and the supporting information for those measures, this format appears cost-effective. By integrating the existing databases with the monitoring website, all changes to the database will automatically be seen in the monitoring website. A web-based format allows for access from any computer with an on-line connection. This will allow for both the ability to view the monitoring information and update the underlying information. Of course, different levels of access will be available for viewing and updating the website. By linking the monitoring website to existing District databases, the time lag between obtaining results and reporting is reduced. Any performance measure directly tied to a database may be updated as the database is updated. Also, text-based reports, such as those for the Executive Limitations will be available as soon as they are entered in to the system. Any incident reports for water quality violations and similar events may be added to the website as soon as possible to maintain a record of such problems and how they were resolved. By allowing virtually direct access to the monitoring information, updates will be very simple to make.

Different screens will be available for both entering new data and for correcting old data. Shortcuts for entering large quantities of information may also be available. Not only can the data be updated quickly, but also format and measures can be updated quickly as well. One of the key features of the online format will be its ability to easily handle multi-layer applications. The first layer will consist of only the pre-established performance measures. Each performance measure can lead to various layers of underlying data, depending on the particular measure. This system allows each viewer to pick and choose which category of performance they wish to see in greater detail. This way, each report may be tailored to the individual viewer's desires. An online format obviously lends itself very well to the use of graphics. Both text and tables are easily produced and vividly shown via the Intranet.

There will of course be initial costs associated with the implementation of a web-based reporting format. New hardware will be necessary to support the system and effort will be needed to create the format and link it to the existing District databases. In the long term, though, these costs will be made up for by the lower operating costs of such a system. Operating costs will be lowered by minimizing the time it takes to use and update the reporting system and by eliminated a substantial amount of the reproduction costs.

Another benefit of a web-based reporting format is its ability to communicate with staff. By giving Staff and community access to its monitoring, the Board provides transparency of its actions and builds community trust. The Board obviously reserves the right to restrict access for certain reports as appropriate. However, by allowing others to see the same results they do, the Board can easily show the community the benefits the District provides.

Though the District currently distributes many of its publications, a web-based format will make public information much more streamlined and simplified.

The level of information technology currently available makes a web-based reporting format for monitoring very attractive. The District already has many of the network requirements in place to support such a format, and so its creation should be relatively straightforward. The benefits the District will gain in terms of ease-of-use and reduced operating costs greatly outweigh the initial costs incurred to implement the web-based system.

REPORTING MECHANISMS

Though all of the monitoring information may be made available on the website, there will be three relatively distinct reporting mechanisms. They are:

- Monitoring for success on the Ends Policies
- Internal reporting of compliance to Executive Limitations
- External reports of Executive Limitations as requested by the Board

Ends Reporting

Most of the monitoring for success on the Ends Policies will be on an on-going basis. After the performance measures are established and tied to the appropriate databases, all of the information will be available concurrently as the databases themselves are updated. Goals, trends, and predictions will all be included on the graphs. Also, details of both past violations and foreseeable future problems will be included.

Internal Executive Limitations Reporting

Since most of the Executive Limitations are not conducive to quantifiable measuring, they will be presented in a different format on the website. A short internal report will be added to the website every year stating compliance or non-compliance with the internally monitored Executive Limitations Policies. Most of the Limitations are to be measured on annual basis, except for Financial Conditions and Activities, Asset Protection, and the Non Discrimination Plan, which will be examined quarterly. The website will be updated at the appropriate interval for each Limitation.

External Executive Limitations Reporting

The final section of the website will be similar to the previous section. It will be a report of the external audits of the District. An annual audit of Financial Conditions and Activities will be included in the website, along with a biannual report on Compensation and Benefits. They will likely be in a text-based format, similar to the rest of the Executive Limitations.

CONCLUSION

The main concern with developing monitoring reports is the assurance that they are appropriate for their purpose. It is our belief that current reporting mechanisms will not provide the information necessary for the Board to quickly and accurately monitor the status of the General Manager, and hence the performance of the District in light of the new Ends Policies and Executive Limitations. The use of new graphical performance measures based on the Ends Policies, together with realistic goals, is the best way to monitor on-going success. In today's age of information technology, the most cost-effective way to present all of this information in a convenient, and easy manner is via the Intranet. Using already existing District databases, the Board can be provided with a simple, easy-to-use, up-to-date report on the attainment of Ends Policy goals. This way, the Board can be assured that the General Manager is performing well, and afford themselves the adequate time and effort to succeed in their job of governing the District.

Next Steps

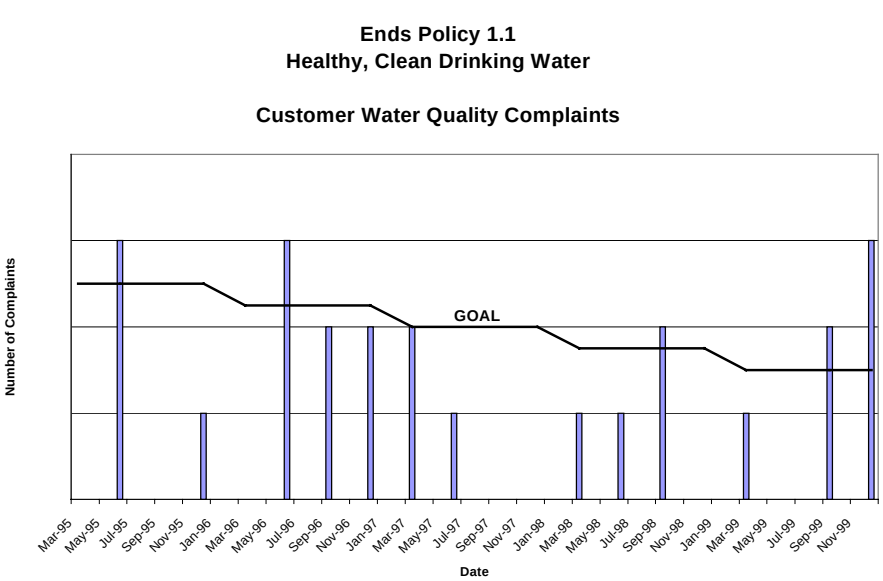
In light of the previous discussion, the following is a list of five steps necessary to implement an effective method for monitoring Ends and Executive Limitation Policies. The list of action items can be broken out into the following stages:

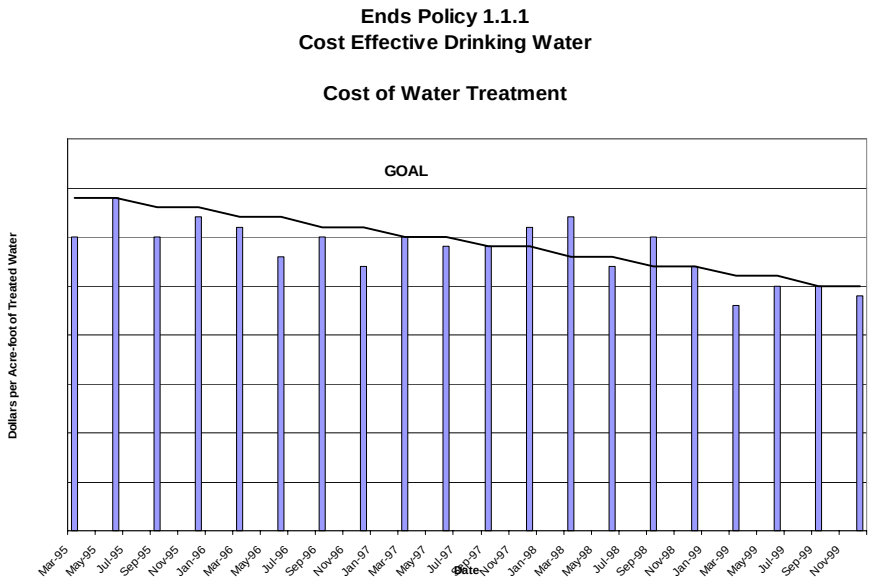
- Board's resolution of appropriate procedures
- Identification and improvement of current tracking
- Integration of databases and website formatting
- Final testing
- Monitoring for problems and improvement

All of the stages prior to actual use of the website (Stages 1-4) could be completed to a total of five to seven months. The following pages depict sample graphical formats that correspond to specific Ends Policies. Refer to Section 5 for a more detailed Action Plan. Total time for implementation would be between six to eight months

Board Governance (continued)

Example Charts of Performance Metrics





One measure of the cleanliness and healthfulness of drinking water is the customers' reaction to it. As a wholesaler, the District controls only a portion of the complete water distribution process. However, the District's treatment and distribution of water to the retailers significantly affects the water quality. Keeping track of the number of complaints regarding water quality is a simple yet effective method of tracking overall quality of delivered water. Goals for water quality complaints can be established by looking at the historical average of complaints and reducing them over time.

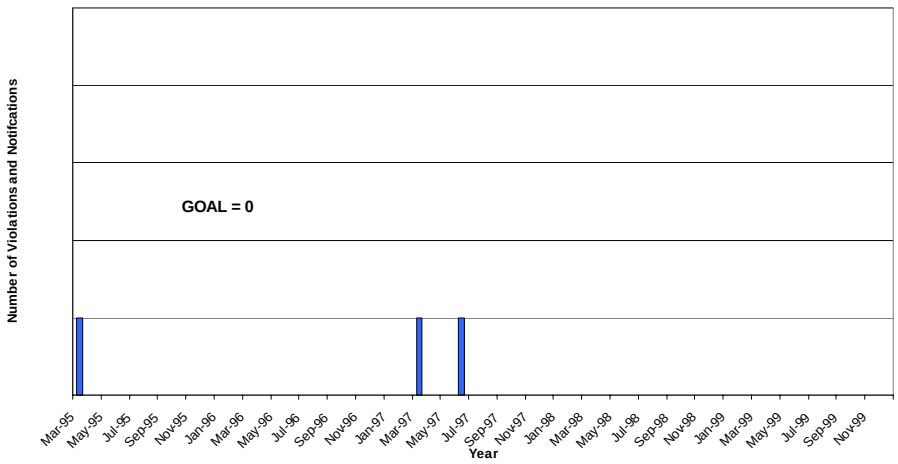
A simple yet effective way of measuring the cost of water treatment is to calculate the cost of water treatment per unit volume of water treated, such as dollars per acre-feet. When creating cost goals, both the quality of incoming water and current regulations must be taken into account.

Board Governance (continued)

Example Charts of Performance Metrics (continued)

Ends Policy 1.1.1
Water Quality Meets or Exceeds All Regulatory Standards

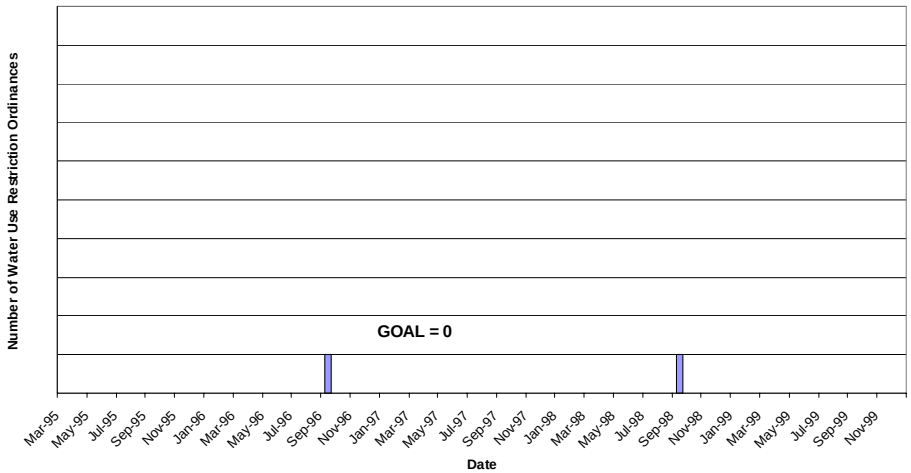
Number of Violations and Notifications



The simplest way of measuring compliance with water quality regulations is by counting the number of notifications and violations issued by the Department of Health Services. The goal here is to not have any notifications or violations. Especially for this metric, any non-achievement of the goal should be accompanied by a short report on why the event occurred and how similar events will be avoided in the future.

Ends Policy 1.1.2
Water Supplies Meets Current Demand

Number of Water Use Restriction Ordinances



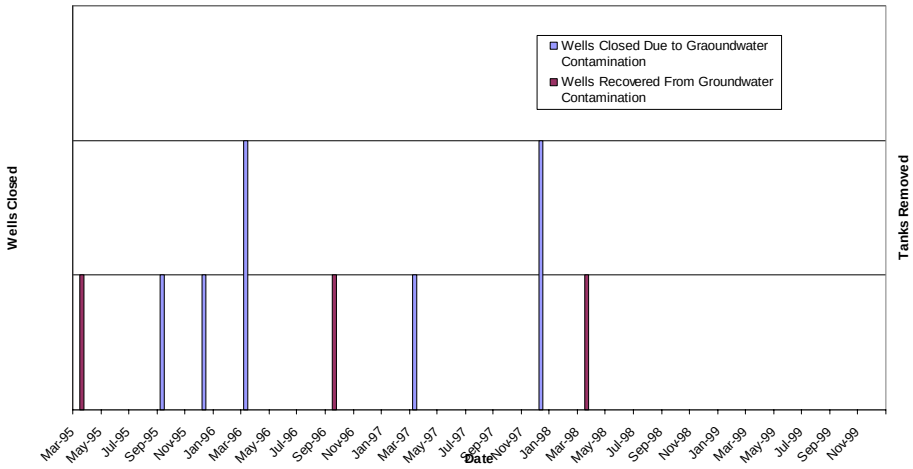
To keep track of how well current supplies are meeting customer demands, one can track the number of water use restriction ordinances. It is hoped that any such ordinances would only be issued during times of serious drought. This metric, like others, is very simple but it does focus on the ultimate output of the District.

Board Governance (continued)

Example Charts of Performance Metrics (continued)

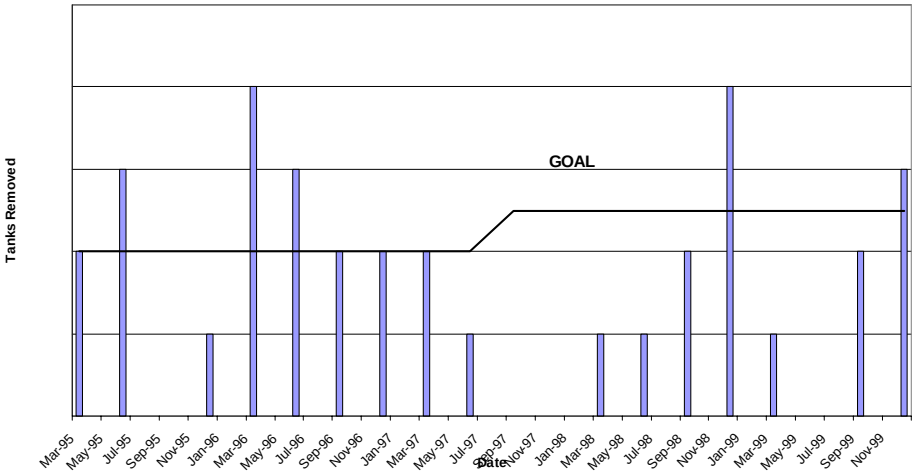
Ends Policy 1.1.5
Groundwater Basins are Aggressively Protected from Contamination

Wells Closed and Recovered Due to Groundwater Contamination



Ends Policy 1.1.5
Groundwater Basins are Aggressively Protected from Contamination

Leaking Underground Storage Tank Cases Closed



Groundwater contamination can force the closure of production wells. However, sufficient clean-up of contamination can also allow previously closed wells to be brought back into production. By tracking both the number of wells closed due to contamination and the number of wells returned to service, the District can monitor how effectively its groundwater protection programs are functioning.

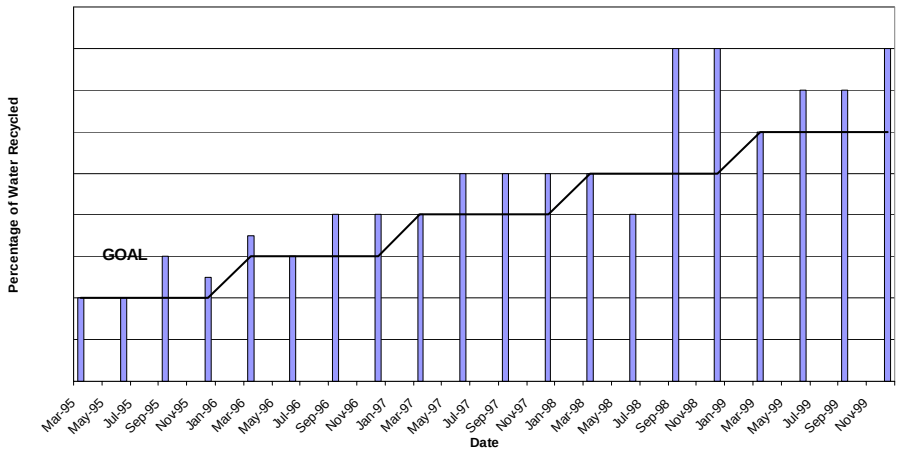
Another measure of groundwater protection is the number of leaking underground storage tank (LUST) cases closed. This number obviously depends on the current number of LUST cases, but it again focuses on ultimate output.

Board Governance (continued)

Example Charts of Performance Metrics (continued)

Ends Policy 1.1.6
Expansion of Water Recycling

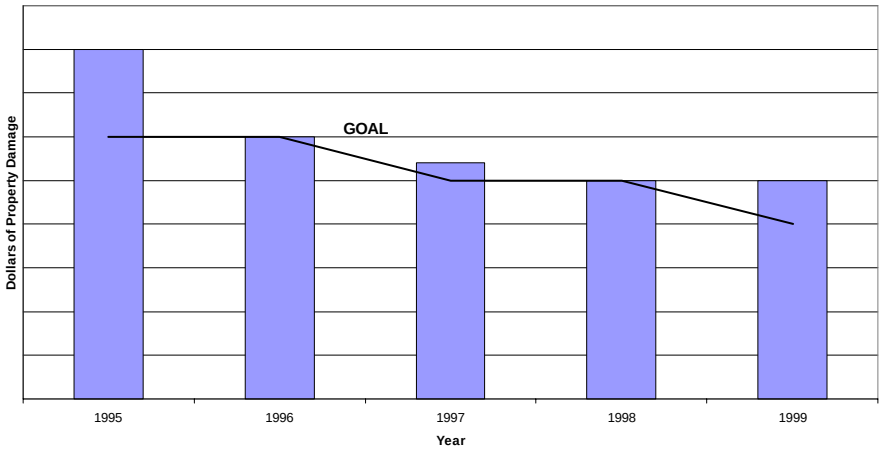
Percent of Water Recycled



The District has expressed its desire to increase the percentage of water recycled in the county. It has already discussed possible goals for recycling. Direct tracking of percentage recycled versus the target is the easiest way to measure attainment of those goals.

Ends Policy 1.2.2.1
Property is Protected From Flooding and Erosion

Property Damage Due to Flooding and Erosion



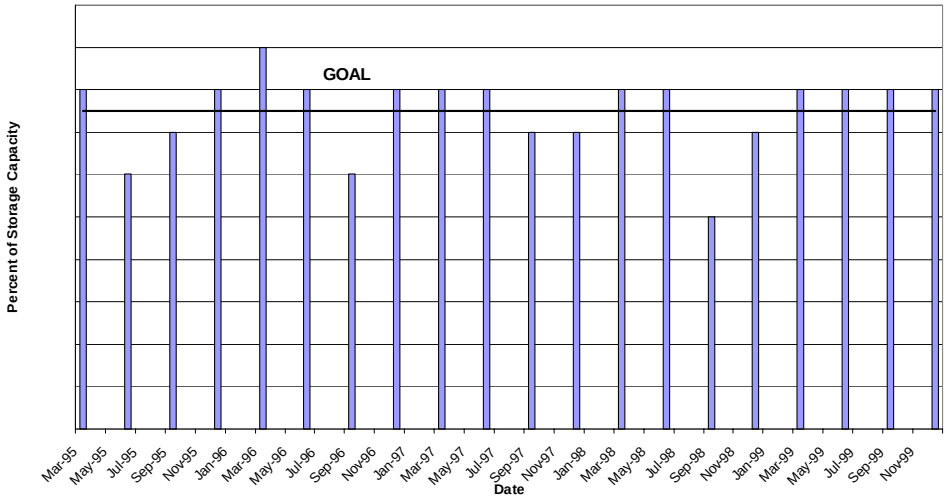
The simplest way to track how much property has been damaged by flooding in the county is to track to dollar amount of property damage due to flooding. This an amount which will vary seasonally, with the vast majority of property damage due to flooding occurring in the winter and early spring. By setting seasonal goals, the District can accurately track its success in flood protection.

Board Governance (continued)

Example Charts of Performance Metrics (continued)

Ends Policy 1.2.2.3
Groundwater Supplies are Sustained

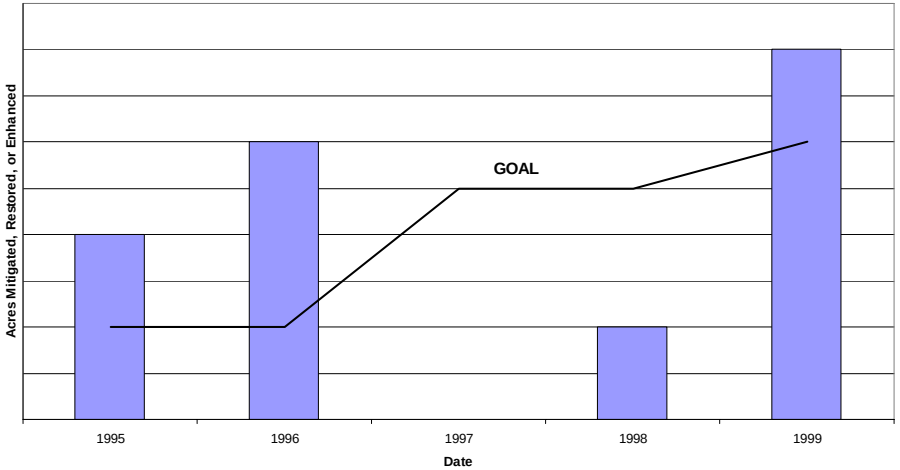
Percent Groundwater Storage v. Capacity



The District's groundwater basins have a storage capacity which remains fairly constant with time. By tracking the percent of that storage capacity currently being used, the District can ensure that the basin is not being over-pumped and that groundwater supplies are sustained.

Ends Policy 2.1.1.3
Appropriate Mitigation, Restoration, and Enhancment

Acres of Environmental Mitigation, Restoration, or Enhancement



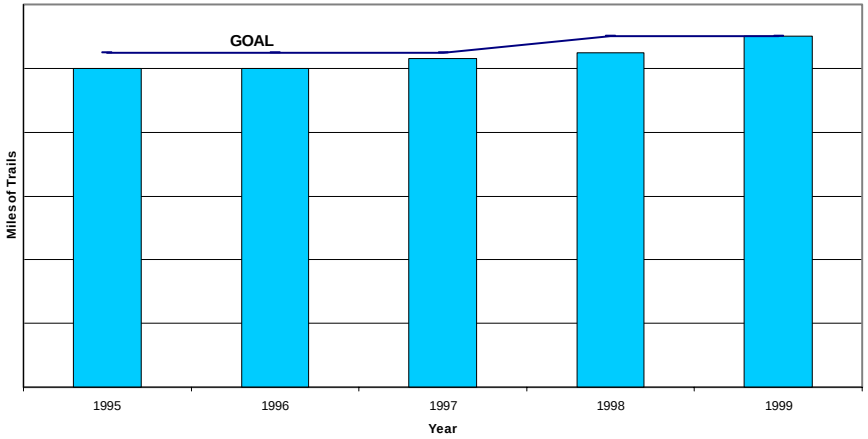
The District has demonstrated that it wishes to help provide environmental mitigation, restoration, and enhancement in places where appropriate. One good way to measure the progress of these activities is by tracking the acreage of land that has been either mitigated, restored, or enhanced by the District.

Board Governance (continued)

Example Charts of Performance Metrics (continued)

Ends Policy 2.2
Open Spaces, Trails, and Parks as Appropriate

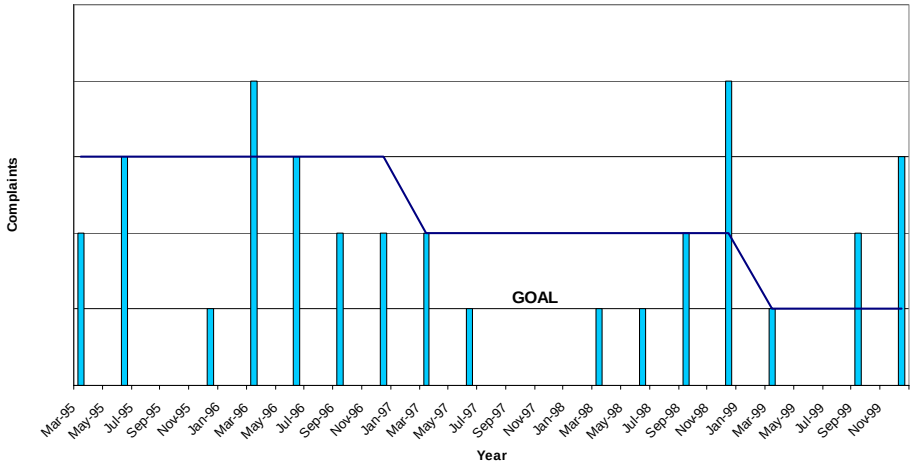
Miles of Developed Trails



An easy way to track the amount of trails available for public use is by counting the total miles of developed trails on District property. A similar measure would be the total number of acres of open space maintained by the District.

Ends Policy 2.2
Open Spaces, Trails, and Parks as Appropriate

Property Owner Complaints



Though the District would like to maintain as much public access to open space, trails, and park space as feasible, such public access is not always appropriate. By tracking the number of complaints from property owners adjacent to open District-owned space, trails, and parks, the District can monitor the impact and the appropriateness of their recreational areas with regard to adjacent private property.

Water Operations

BACKGROUND

Raw Water Supplies

The District imports surface water from two primary sources: South Bay Aqueduct, owned and operated by the State of California's Department of Water Resources, and the San Felipe Project, owned by the United States Bureau of Reclamation. Both of these water sources originate in the Sacramento-San Joaquin Delta in central California. This surface water supplements ground water obtained via large number of wells in Santa Clara County and local runoff stored in District reservoirs in the County. Imported water and locally conserved water are used to recharge the groundwater basin and to supply the water treatment plants.

Water Treatment Plants

The oldest of these water treatment plants is the Rinconada Water Treatment Plant that was commissioned in the late 1960's. Rinconada has a sustained capacity of 65-80 MGD depending on the quality of the raw water received. Rinconada's treatment process consists of coagulation, flocculation, sedimentation, filtration, and disinfection facilities. A unique feature of Rinconada is the upflow clarifiers that the plant utilizes to accomplish the flocculation and sedimentation steps. The plant is capable of adding a variety of chemicals to the water to optimize treatment.

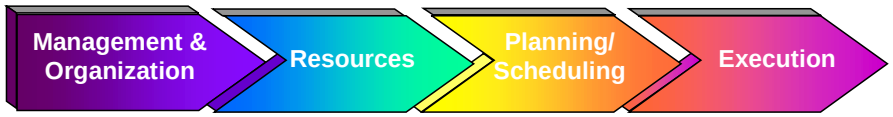
The Penitencia Water Treatment Plant is the smallest of the District's three water treatment plants. It was commissioned 1974 and treats 35-40 MGD. Penitencia, which employs a conventional water treatment process, is located on the east side of the Santa Clara Valley at the terminus of the South Bay Aqueduct. As such, it receives 100% South Bay Aqueduct water most of the time; however, the District's piping system is flexible enough that San Luis Project water can also be delivered to Penitencia, if needed.

The Santa Teresa Water Treatment Plant is the newest and largest of the District's three water treatment plants. It was constructed between 1986 and 1989, and is located in South San Jose, several miles south of the District's headquarters, in the Almaden Valley. Like Penitencia, Santa Teresa treatment consists of conventional flow-through unit processes. It is capable of treating 100 MGD on a sustained basis. Most of the time, it treats water from the San Felipe Project.

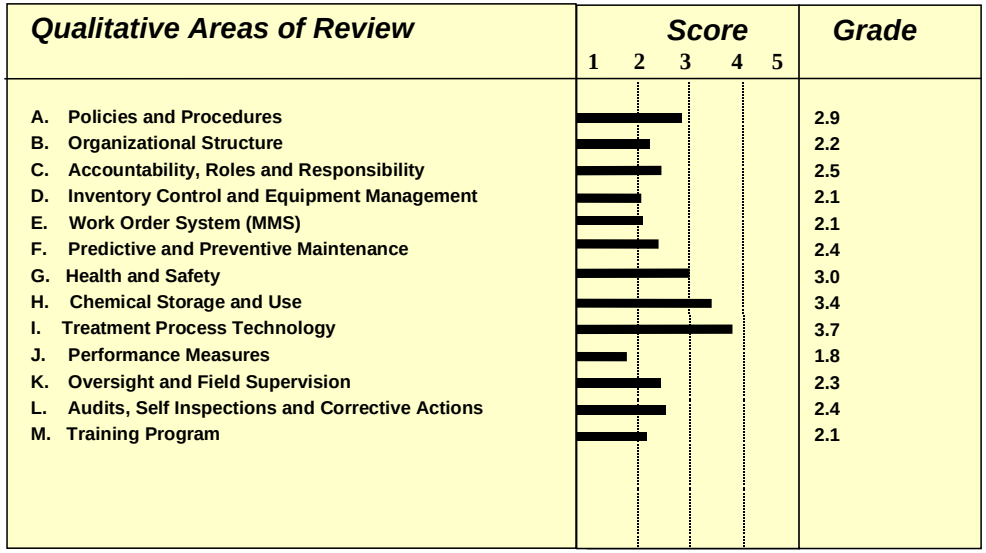
EFFECTIVE PRACTICES SUMMARY SCORECARD

Water Operations (continued)

The graphic on the following page summarizes the findings of the Performance Evaluation for Water Operations. The individual criteria sheets are provided following Opportunities for Improvement in a series of "Efficiency and Effectiveness" tables. These tables present the facility's rating compared with industry effective practices for each of the focus areas under review. Evaluation comments are presented to describe the corresponding practice within the District to support the ratings.



SCVWD Water Operations Competitiveness Scorecard



1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

NOTED SUCCESSES

Water Quality

Variations in the water quality received through the South Bay Aqueduct have historically caused a significant number of upsets to the treatment process of Rinconada. Over the years, the District operational staff has learned to minimize the impact of these upsets such that the treated water quality produced at the plant is either not impacted or impacted only slightly. In addition, in recent years, transmission system improvements made by the District have enabled the District to deliver San Luis Project water to Rinconada in place of or in addition to the South Bay Aqueduct water. Blending these two waters has allowed the District to create a more consistent quality of raw water. This raw water quality consistency has, in turn, created more stable operations at Rinconada.

Treatment Plants

The District's three water treatment plants all operate very well, meeting drinking water quality requirements virtually all of the time. The staff is well trained and motivated to produce water of the highest possible quality. The condition of the plants is also excellent. Visual inspections show them to be clean, well-maintained facilities with significant operational flexibility and adequate redundancy of key equipment and systems.

Over the years, the plants have all been modified to a certain extent. For example, several years ago, the District converted all three plants from chlorine gas to sodium hypochlorite for primary disinfection. This entailed removal of chlorine gas storage and feed facilities and installation of a new sodium hypochlorite tanks and feed pumps. One of the drivers for this conversation was improved safety. All three water treatment plants are

scheduled for significant capital improvements over the next 5-10 years. These improvements are designed to allow the District's treated water to fully comply with current and expected future drinking water regulations. The anticipated CIP cost is over $100 million.

Groundwater Management

Overdrafting of the Santa Clara Valley ground water basin has historically been a significant problem. One of the District's early missions was to import surface water supplies to both offset ground water usage and for use as recharge water to improve ground water levels. Over the past 30 years, the District has succeeded in significantly improving ground water levels through the County.

Dedicated Staff

The District staff is experienced and stable. Positive staff attributes include:

- Highly skilled operations personnel with extensive experience and knowledge of the District;
- Strong external focus on customers and regulatory agencies;
- Committed to responsibilities associated with their state certifications;
- Committed to training new operators; and
- Safety conscious work environment.

High Quality Facilities

The District's water utility infrastructure is top quality and well maintained. Positive features noted include:

- Excellent condition;
- Well designed and effective facility and equipment layouts provide excellent flexibility;
- Automated operations capability with minimal staffing; and
- Redundancy of critical equipment.

Proactive Tracking of New Regulations and Planning

The District staff does an excellent job of evaluating new regulations by:

- Monitoring of new regulations, and
- Use of pilot plant facilities to evaluate treatment strategies and compliance approaches.

Employee Benefits

The District provides excellent employee benefits program which attracts and retains employees.

Tools & Resources

The District maintains a comprehensive inventory of vehicles, personal computers, and small tools.

Predictive Maintenance and Performance Metrics in Meter Shop

The District's meter shop is representative of water industry best practices as evidenced by:

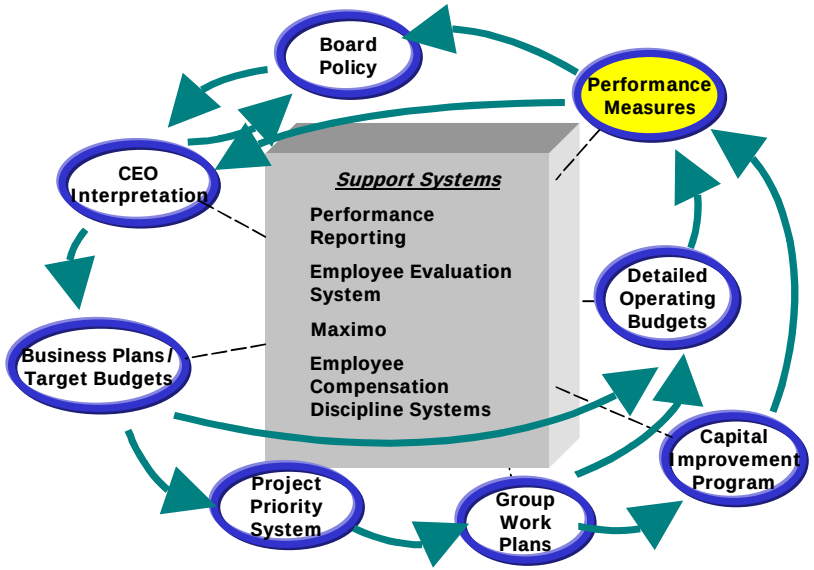
- Accurate inventory of meters and repair histories;
- Comprehensive, fully equipped test facility;
- Quality assurance program;
- Predictive maintenance approach to meter repair and replacement; and
- Highly trained staff.

AREAS OF POTENTIAL IMPROVEMENT

Based upon our review of the Water Operations Department, our evaluation team noted the following for improvement:

- Performance Metrics
- Periodic Maintenance
- Inventory Control

Each of these areas have been identified as having significant opportunities for cost-effective or efficiency improvements. A more detailed description is provided on the following pages for each of these potential opportunities.



Utility Business Cycle

A. Performance Metrics

Issues

About three years ago, several District employees embarked on a mission to generate meaningful operations and maintenance (O&M) performance measures in order to measure the performance of several functions within the District. Several employees were sent to training classes to learn the value and methodology of performance measurement. Training classes were held at District facilities to discuss and instruct other District employees. Malcolm Pirnie understands that staff appeared reasonably supportive of the mission. However, for several reasons, the majority of the performance measurement effort never produced much intrinsic value to the District:

- Lost continuity in the grassroots performance measurement leadership
- No accountability established
- No formal Performance Measurement Policy
- Limited Board and Management support
- Limited use of the Maximo to accurately track real-time performance

This effort culminated in a July 1998 Operations and Maintenance Performance Measurement Report that presents a detailed matrix of suggested performance measures and accompanying needs.

The Board of Directors has recently embarked on setting new governance policies. However, the Board and Executive Management have few effective tools available to evaluate performance against stated objectives, across individual treatment operations, over defined periods of time, or for individual performance.

Problems with the current performance tracking systems include:

- Lack of management inquiry and involvement;
- Lack of consistent reporting format (see Table at right);
- Limited accountability;
- Meaningless, inaccurate or missing data and output measures;
- Limited use of Maximo for tracking real-time data;
- Metrics presented in varying units; and
- Limited feedback to staff.

Sample Matrix of Water Treatment Plant Performance

Filter Performance	WTP #1	WTP #2	WTP #3
• Average Filter Run (hrs)	✘	✘	✘
• Avg Headloss/Run (ft)			✘
• Filter Run (hours)	✘		
• Overflow (GPM/ sq. ft.)	✘		
• GPM/ Sq./Ft./ Run			✘
• Total Filters Washed	✘	✘	
• Wash Water (Total MG)		✘	
• Wash Water (Average MG per wash)			✘

The current Maximo system has been in place for over ten years, yet many reporting capabilities are not yet in full use. The Department inputs and tracks an extensive amount of work order and preventive maintenance data, but little is used to track performance against plan or trend the data over time to monitor progress or predict foreseeable events. Reports are randomly generated and reviewed. The system currently contains lots of historic data collection with little benefit in the way of useful trending information to manage the organization.

Opportunities for Improvement

Additional thought and discussions are needed within the District management team in order to best determine what information needs to be tracked by O&M managers and plant supervisors, and what information should be included in regular presentations to the Board. In addition, a careful review of accountability for each measure is also warranted. The Maximo system must be fully utilized in order to provide accurate data and useful reporting and trending charts. Executive management commitment and staff training are essential to be successful.

In order to provide additional guidance, Malcolm Pirnie has made preliminary recommendations in Appendix E for some strategic O&M performance measures that may be more in line with what management wishes to, or needs to track. This list is by no means meant to be comprehensive in nature, but only to serve as a guide for more informed choices by accountable parties. Each agreed-upon measure roll-up into a strategic management objective. To ensure buy-in, individuals accountable for directing performance should participate in developing the data tracking and reporting needs. Limit performance measures to key areas that matter.

B. Periodic Maintenance

Issues

The term "periodic maintenance" encompasses maintenance operations that go beyond the prevention of equipment breakdown. The objectives of a periodic maintenance program are:

- to extend the life of system equipment and infrastructure,
- compile information on equipment use and condition, and
- provide a tool for future infrastructure and resources planning.

A periodic maintenance program includes both preventative and predictive maintenance activities. On-time preventive maintenance is usually less than 50% completed on time for many crafts. Electrical preventive maintenance is not performed due to a shortage of personnel. Preventive maintenance data is suspect, routinely untimely and not periodically audited. Limited history exists on equipment condition or hours of operation.

The District has been installing and upgrading its Maximo maintenance management system for over ten years. Accordingly, based upon our review, several components of a successful periodic maintenance program were observed in the O&M Department. However, these components tended to be isolated within specific groups and do not appear to provide a comprehensive periodic maintenance management program. For example, O&M maintenance data is routinely put into the Maximo system, but little useful information is retrieved for making repair/replace or management decisions. Operators typically use one kind of form; mechanics typically utilize another. Santa Teresa WTP doesn't utilize either – only a white board. Performance measures are routinely reported, but seldom utilized to make decisions

Opportunities for Improvement

A comprehensive periodic maintenance system is vital to the proper planning and justification of this type of required maintenance effort. It allows a maintenance manager or supervisor to describe how their section plans to accomplish its mission. All maintenance and repair activity for any piece of equipment should be reported for inclusion in an historical record. A single record that contains the complete maintenance history of a piece of equipment, including preventive maintenance, breakdown, repair and rebuild data should be maintained. This comprehensive historical record of each piece of the infrastructure provides mechanics, operations and maintenance supervisors with the necessary information to:

- Identify problem areas that should be prioritized for rehabilitation or CIP projects;
- Develop and implement routine change out programs for equipment prior to failure; and
- Plan future resources and equipment.

The Maximo maintenance management system can be a very useful tool for tracking the District's periodic maintenance activities and individual maintenance performance. The District continually invests in software upgrades, and should instill better periodic maintenance and reporting practices to ensure adequate maintenance performance results are obtained. Additional opportunities include the following:

- Coordinate a heightened Maximo implementation plan with the role-out of District performance measures;
- Re-train operators and mechanics as appropriate on Maximo;
- Begin to track equipment condition, usage and hours of operation;
- Review preventive maintenance schedules and mechanic workloads;
- Prioritize critical preventive maintenance activities;
- Add clerical staff as appropriate to publish monthly periodic maintenance reports; and
- Designate appropriate accountability within the District to ensure implementation.

C. Inventory Control

Issues

It is Malcolm Pirnie's understanding through discussions with O&M managers and other District employees that the District performed an inventory and asset management audit a few years ago. However, based on our interviews and discussions with key District employees, the current asset control procedures and warehouse policies appear to be lacking proper security and asset tracking systems. It is our further understanding that the warehouse is on an honor system. Inventory is not routinely physically counted and substantial amounts of inventory loss or shrinkage appears to be tolerated. Key equipment is routinely found to be missing, lost, stolen or stored in another location. Trade employees are issued credit cards to use at local stores to regularly procure parts under $1,000.

Based upon our review of the District's inventory control system, our team identified several issues that warrant further evaluation.

- The District's warehouse needs to be secure;
- Equipment and spare parts need to be accounted for;
- Work orders need to tie to material usage;
- Loss or inventory shrinkage needs to be reconciled and reported;
- Adequate supplies of critical spare parts need to be on-hand; and
- Routine spare parts need to be adequately stocked to minimize employee down time and the inefficiency with outside purchases.

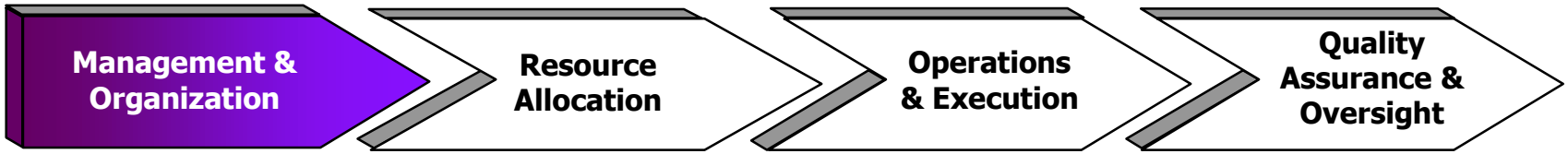
Opportunities for Improvement

A strong inventory control management system is a District necessity in order to control unnecessary equipment purchases, minimize replacement of hand tools and properly stock spare parts and requisite materials and supplies. The inventory control system employed should electronically link to the Maximo work order system and purchasing systems to maintain proper spare parts inventory. Automatic purchase requests should be produced when critical inventory becomes low. Usage of equipment and spare parts needs to be physically controlled and routinely counted and reported to Executive Management.

The District's inventory control system can be improved by:

- Adding asset control security measures to the warehouses (key locks, remote cameras, storeroom clerk, etc.);
- Performing a physical audit of parts, equipment and supplies in stores;
- Determining the amount of inventory loss or shrinkage from purchasing records and current inventory and publish results;
- Developing a new asset control policy and applicable tracking procedures;
- Linking inventory to Maximo and to purchasing records; and
- Training employees on proper asset management techniques
-

Effective Practices Analyses - Water Operations



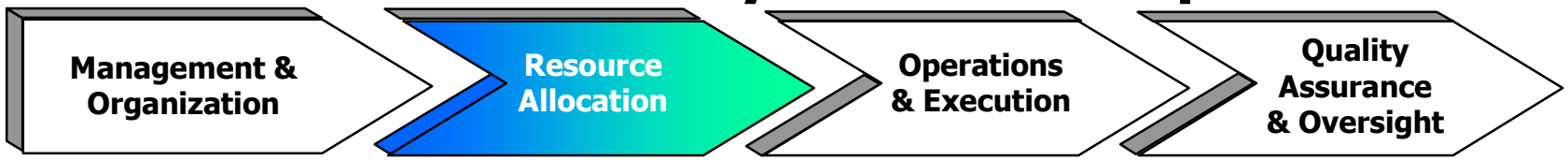
A. Policies and Procedures

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Governing policies are well defined.		X				Currently developing new Board policies. Localized operating procedures are defined. Utility-wide procedures are not clearly defined or effectively communicated.
2. Policies promote competitive behaviors.		X				Policies do not explicitly address competitive behavior. Limited competitive performance measures.
3. Operating and maintenance procedures are well documented and controlled.			X			Operating procedures are well documented. Currently developing pilot on-line O&M manual.
4. Key supporting documents are kept current and are readily available.			X			Emergency phone lists and PERT Manual are kept current.
5. Procedures and work practices are implemented consistently.		X				Some variation in reporting & documentation procedures across the treatment facilities.Left to first-line supervisors.
6. Procedures are clearly communicated to all affected staff.				X		Operating & maintenance procedures are well understood.
7. Procedures are used routinely by staff as reference.			X			Long-term staff are also used as a reference.
8. Procedures are in compliance with organizational and regulatory agency requirements.			X			Good regulatory record. Many procedures require updating and alignment with Board's efficiency objectives.
9. Procedures incorporate achievable best practices.			X			Operating procedures provide redundancy & ease of operation & control. Operating and maintenance procedures have limited cost focus.
10. Periodically reviewed and updated for continual improvement.			X			All staff policies are currently being reviewed for near-term elimination or revision.
11. Comprehensive plan for long-term needs.				X		Five-year, $210M CIP plan & resource planning aimed at meeting future regulatory needs and water demands.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.9**

Effective Practices Analyses - Water Operations



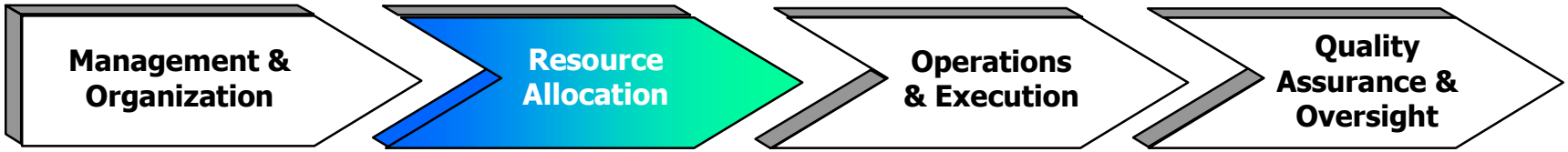
B. Organizational Structure

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Effective organizational structure to meet current and future demands.		X				Team concept improves plant operability. Authority & accountability is not well-defined causing confusion for customers and employees.
2. Centralization of common functions.			X			Structure is disjointed into functional areas or facilities.
3. Close relationship and information sharing among departments.		X				Treatment facilities rarely share performance or operational experience that could benefit all.
4. High adaptability for restructuring priorities.		X				Organization seems fragmented. Lack of clarity.
5. Relatively flat organizational structure.		X				Nine levels of personnel. Wide ranges in spans of control.
6. Well defined organizational optimization plan.	X					No long-term organizational or staffing plan.
7. Adequate inter-communication channels from plant manager to supervisors and staff.				X		Plant staff and plant teams meet regularly. Plant safety meeting every two weeks.
8. Flexibility in assignment of staff.			X			Very flexible staff. Team concept not fully embraced. Team concept provides some cross-training. Operators trained at all plants.
9. Adequate field supervision.		X				Supervisors, unit & group managers spend 50-80% of time in the office.
10. Incentives to motivate dedicated and skilled employees.		X				Few incentives and limited career growth opportunities.
11. Positions/ vacancies are filled with qualified personnel in a timely manner.	X					Some positions vacant for up to 3 years. Hiring process & vacancies severely inhibit effectiveness of organization.
12. Minimizes the need for overtime.		X				O&M overtime averages 4-6%. Individual functional areas are not adequately aware of overtime usage.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.2**

Effective Practices Analyses - Water Operations



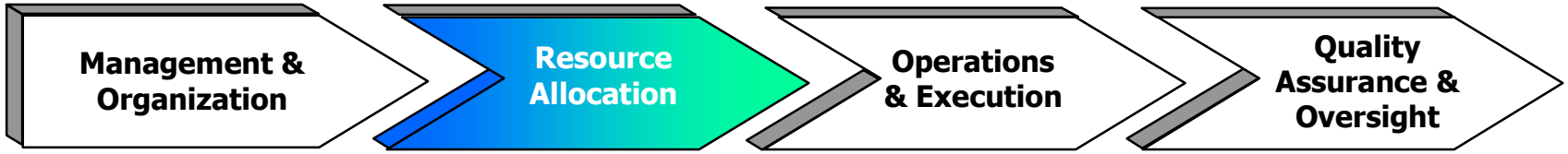
C. Accountability, Roles, and Responsibility

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Well defined and documented roles and responsibilities in each function throughout the utility.		X				Authority & accountability are not well-defined between Water Operations and Flood Management personnel.
2. Management has proper accountability, authority and responsibility.	X					Rapid management turnover results in lack of consistency. Lack of single-point accountability. Apparent unwillingness to make timely decisions. Unclear lines of actual authority.
3. Managers understand their respective roles and responsibilities.			X			Operation managers have a solid understanding of primary functions & objectives within individual facilities.
4. Responsibilities are clearly communicated and understood by plant staff.				X		Plant & support staff know their job roles & responsibilities. Well informed of water production goals.
5. Staff possessed a high degree of personal responsibility and accountability.			X			Operations staff value their certification & take pride in water production. Well maintained facilities. Limited direct accountability. Anecdotal account of running out of treatment chemicals and untimely response.
6. Ensure that adequate resources are available to assist employees fulfill designated roles.			X			Tools and resources appear adequate. Good team work ethic exists among operation and maintenance personnel. Resources are mobilized as needed.
7. New programs are fully implemented to achieve maximum value.		X				District has a history of not completing programs. District programs appear to lose momentum mired in committees & decision-making. Maximo is nine years old.
8. Periodically review and update the roles and responsibilities as needed.		X				Initiated a reorganization in 1995 including review of individual roles. No regular formal review process.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.5**

Effective Practices Analyses - Water Operations



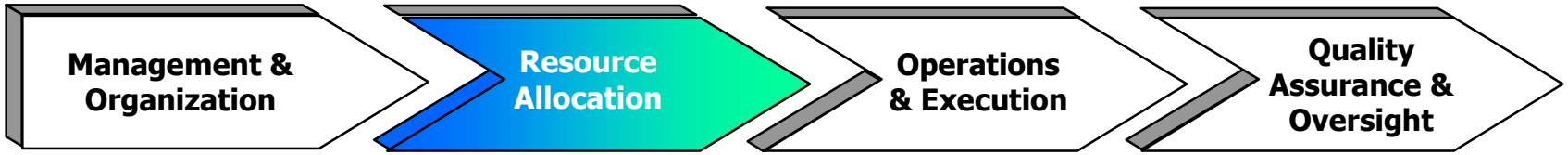
D. Inventory Control and Equipment Management

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Well defined inventory control procedures.		X				Lack of standard inventory procedures. Developing an integrated, computerized asset management plan.
2. All equipment and parts are secured.	X					Parts supply room is uncontrolled. No useful database.
3. Maintain a database containing types, ages, hours of operation, and condition of parts and equipment.		X				Parts & tools are ordered as needed without tracking. Some units, meters & fleet maintain comprehensive database of equipment maintenance & performance.
4. On-line, user friendly inventory system for tracking all equipment and parts.		X				Inconsistent procedures. Systems vary in different functional areas.
5. Routine inventory of parts and equipment.			X			Inventory completed annually.
6. Appropriate level of inventory of critical parts.			X			No identified shortage of critical spare parts. Stored at WTP.
7. Use historical data to plan the inventory.	X					No history or data base of parts used or lost. Primarily rely on staff memory of past experiences.
8. Stock spare equipment and parts in a well-organized manner.		X				WTP parts rooms are well-stocked & organized..
9. Have readily available materials, parts, and supplies when needed.			X			Equipment & parts are ordered as necessary without problem or delay
10. Consistent storage/ warehouse practices among facilities.		X				Warehouse facilities operate independently. Tools & parts appear available when needed.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.1**

Effective Practices Analyses - Water Operations



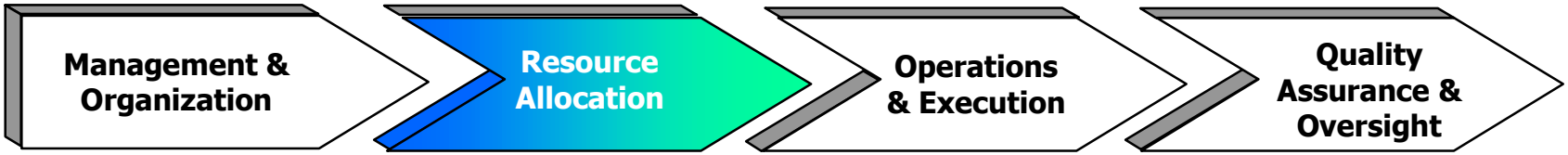
E. Work Order System (MMS)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Well documented work order system and process.			X			Different WTPs use different systems. Well documented Maximo procedures.
2. Documented accountability for completion of work orders.			X			Documented accountability for each work order.
3. Uniform work order system across the utility.		X				No standardized tracking of work order completion.
4. Fully automated, user friendly work order system.		X				Work orders prepared by hand. STWTP uses white board. Each WTP different. Not full reliance on Maximo system.
5. Prioritize critical responses.			X			Prioritization currently based only on time.
6. Fully link the work order system to other functions such as accounting, purchasing, and inventory.	X					Maximo and FMS not linked. No link to inventory.
7. System capability to identify problem areas.	X					Re-occurring problems are not quickly identified as a result of not tracking work orders and predictive measures.
8. Well documented work order reports with start and completion dates.		X				Exists, but not used consistently.
9. Appropriate performance measurers for each category of work orders.		X				Limited tracking and review of completed work orders. No formal performance measures.
10. Performance metrics are routinely monitored.		X				No maintenance performance metrics spelled out/tracked.
11. Capable to track data and costs by equipment/employee.	X					Very difficult to compile activity cost data.
12. The back-log of work orders is adequately tracked.		X				Backlog is tracked differently. No tracking at STWTP.
13. Avoid duplication of writing work orders.			X			Pilot testing palmtop in-field data entry. Field computers already used in Meter Department.
14. Backlog work orders are minimized.		X				Informal. Substantial backlog for some crafts.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.1**

Effective Practices Analyses - Water Operations



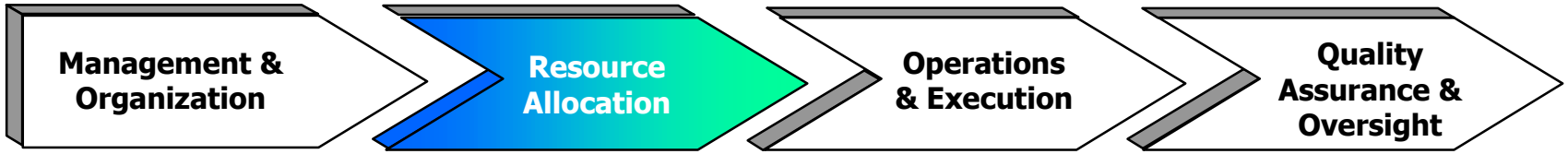
F. Predictive and Preventive Maintenance

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Comprehensive, well documented predictive maintenance program.	X					Not existent. Do some preventive maintenance, but no predictive.
2. Predictive maintenance procedures maximize equipment life and minimize maintenance costs.	X					No data available to perform this. Maximo system is not fully implemented.
3. Use of multiple predictive evaluation methods such as testing, visual, and condition or historical use.		X				Primarily visual inspection. Maximo system is not fully implemented.
4. Well documented preventive maintenance procedures, equipment specifications, and corrective actions.		X				Ensures equipment operation. Maintenance schedules & documentation are not always reviewed to reduce cost.
5. Frequent, comprehensive maintenance inspections			X			Follow manufacturer's recommendations. Frequent maintenance inspections.
6. First responder mentality to noted deficiencies.				X		Regular inspections. Good maintenance mentality.
7. Adequate preventive maintenance activities to maintain infrastructure and equipment.				X		Well maintained facilities.
8. Complete scheduled preventive maintenance on time.		X				Some crafts have not done preventive maintenance for many months. Not adequately tracked.
9. Streamlined preventive maintenance procedures and practices to maximize competitiveness.			X			Time-based preventative maintenance program. New chem-feed pumps at STWTP reduced gear box oil.
10 Cross-train and cross-utilize work crews.				X		Plant teams use O&M personnel to get work performed. Several senior mechanics have WTP operators license.
11. Monitor preventive maintenance activities and costs.	X					Limited tracking in place. Not closely monitored.
12. Routinely review and update the preventive maintenance system for continual improvement.		X				Not fully implemented. All equipment at STWTP on Maximo, but not being used.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.4**

Effective Practices Analyses - Water Operations



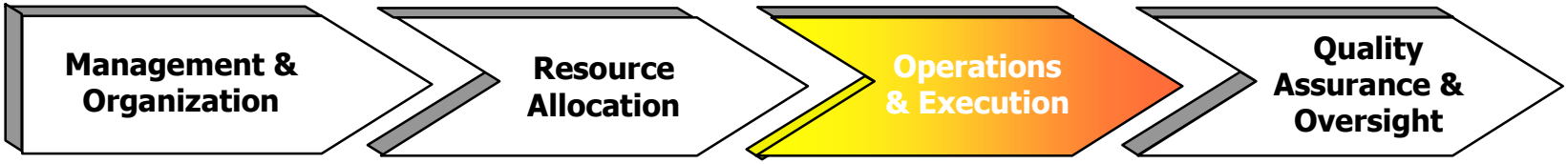
G. Health and Safety Program

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Defined adequate safety procedures			X			Recently documented safety & emergency response procedures. Staff appear safety conscience. Training programs provided. Oral instructions by lead operators.
2. Safety procedures are uniformly implemented.		X				Informal program. No formal training across WTPs.
3. Identify health and safety risks through a formal risk mitigation program.			X			Written policies but limited review of actual work practices
4. Comply with state and federal regulations.			X			Plants comply with regulations at time they were built.
5. Promote good safety practices.			X			Safety appears to be a top priority.
6. Routine floor and field inspections by a qualified inspector.			X			Routine safety & equipment inspections (field personnel on 90-day schedule).
7. Create visible warning signs and alarms identifying potential dangers.				X		All facilities are well marked. Protective/safety structures installed where needed.
8. Maintain a well-lighted utility 24 hours a day.			X			Facilities are well lit and gated. STWTP gate has been inoperable.
9. Workers feel safe against possible safety hazards.			X			Workers said they feel secure and safe on the job.
10. Provide hands-on training.			X			Operators receive informal on-the-job training.
11. Receive periodic re-training (refresher courses).			X			New operations program & training administrator are targeted on emergency & safety procedures. Operators currently only receive 0-16 hours per year.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **3.0**

Effective Practices Analyses - Water Operations



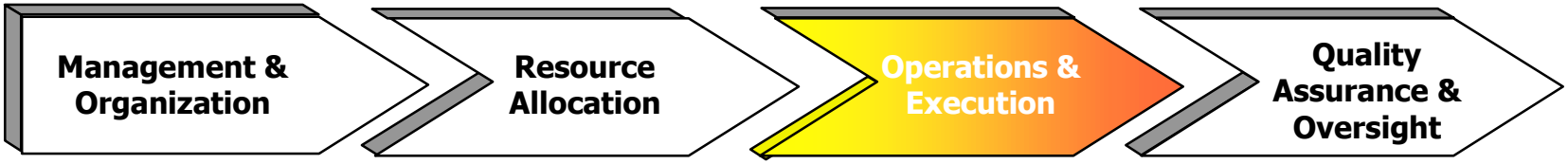
H. Chemical Storage and Usage

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
1. Documented safety handling procedures.			X			Posted signs, On the job training. Adequate written procedures.
2. Appropriate chemical storage and handling standards.				X		Secondary containment, double walled pipes used throughout facility.l Delivery procedures in place. Process modifications made as needed to minimize handling.
3. Operators are educated on proper chemical handling.			X			Yes, but largely internal. No major reported accidents.
4. Apply proper dosing of chemicals.			X			Operators are careful in monitoring plant performance. Constantly evaluating process and dosage.
5. Continuously monitor the application of chemicals.				X		System process is continuously monitored through Intellvision with alarm system.
6. Continuously reduce chemical costs through innovative approaches.				X		Bid chemical supply contracts. Chemical application locations have been modified to improve mixing & efficiency to optimize costs.
7. Find alternatives for hazardous chemicals.			X			Recently switched to sodium hypochlorite (liquid) from chlorine gas. Scheduled to switch activated carbon forms.
8. Maintain spill control and response measures.			X			Maintain formal HazMat spill control procedures.
9. Minimize employee exposures.			X			Well designed plants. Upgrading activated carbon application procedures.
10. Maintain proper storage area.			X			Storage areas are well-kept & covered. Clean and orderly.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **3.4**

Effective Practices Analyses - Water Operations



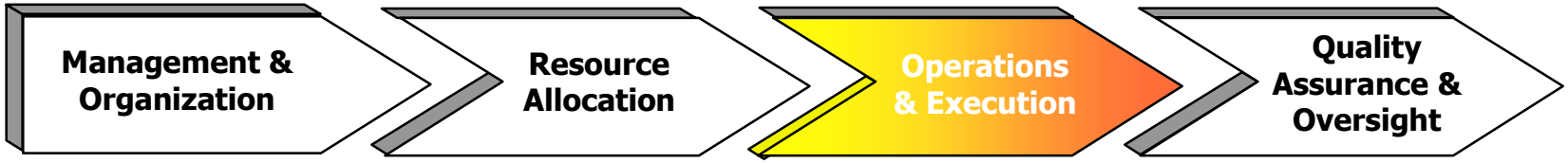
I. Treatment Process Technology

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
1. Historical application of proven technologies that best meet reliability and performance goals.					X	Conventional flow-through plants with chlorine. Upflow clarifier @ RWTP . Excellent record of performance.
2. Utilize proven, state-of-the-art technologies.				X		Constructing new and modifying existing disinfection facilities to meet D/DBP rule. Historically slow in implementing new technologies. RWTP not well suited for SBA water.
3. Periodically determine optimum operating modes.				X		Operators keep close track of source water changes, etc., & adjust coagulant, chlorine, etc., accordingly.
4. Technical and purchasing decisions: Consider impacts on power and chemical consumption. Consider impacts on equipment wear and tear. Consider impacts on labor and expenses.			X			Decisions largely based on experience. Maximo system is not fully utilized. Limited labor and overhead cost focus. Limited performance measures and use of predictive maintenance. Informal consideration given to corrosion, price, longevity, etc.
5. Provide the appropriate amount of operational flexibility.				X		High degree of system flexibility and reliability. Freedom to adjust processes/flows as necessary.
6. Adequately provide for daily/ seasonal/cyclical variations.				X		Staff understand water quality variations. Chlorine demand/dose changes with cloud cover, for example.
7. Appropriate communication channels for inter-departmental communications.			X			Plants talk to each other well re: flow changes, etc., but need to share/standardize protocol/communication with other staff (Water Quality Unit could use improvement).
8. Adequate performance measures for competitive process optimization.		X				Many water quality parameters are tracked (chemical costs, filter efficiency) but only optimized informally, if at all. Labor and power not adequately tracked.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **3.7**

Effective Practices Analyses - Water Operations



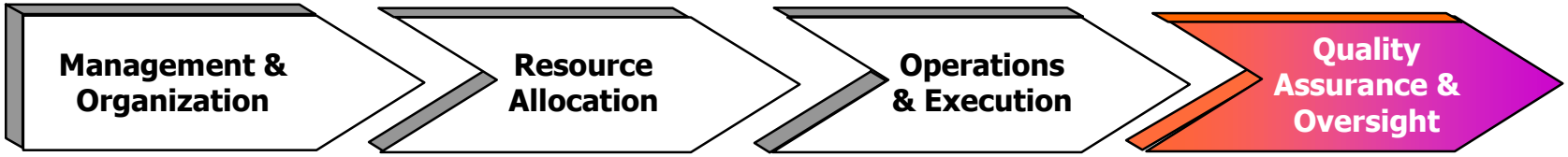
J. Performance Measures

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Performance metrics are meaningful, defined and reproducible.		X				No consistent performance tracking program. Few metrics target process improvements for long term use or trending.
2. Aligned with vision and goals.		X				Limited focus on cost impacts.
3. Use consistent performance measures throughout the utility.		X				Metrics vary throughout functional units. No consistent reports formats.
4. Communicated performance goals and actuals to all staff.		X				Very few results are communicated to staff.
5. Encourage reliable plant performance.		X				Do not focus on operability or maintenance of facilities.
6. Encourage cost effectiveness of service.	X					Unable to measure most cost components.
7. Consistently exceed desired goals .		X				Goals typically only set for State or Federal water quality.
8. Measures drive employee productivity and performance.	X					Results are not adequately shared with employees.
9. Include time, cost quality metrics.		X				Primary focus is on water quality. Minimal data available for time or cost.
10. Include both process and output measures.		X				Available metrics are primarily output focused. Limited in-process measures.
11. Periodically monitor the performance measures.		X				Monthly plant performance measures are not routinely monitored by executive management. Some individuals monitor performance metrics for their unit (e.g., Fleet, Meter Services).
12. Periodically update the performance measures to achieve new business goals.		X				Results of long-term trends are not actively used to achieve or modify performance goals. Few performance goals are established. Not tied to business plans.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **1.8**

Effective Practices Analyses - Water Operations



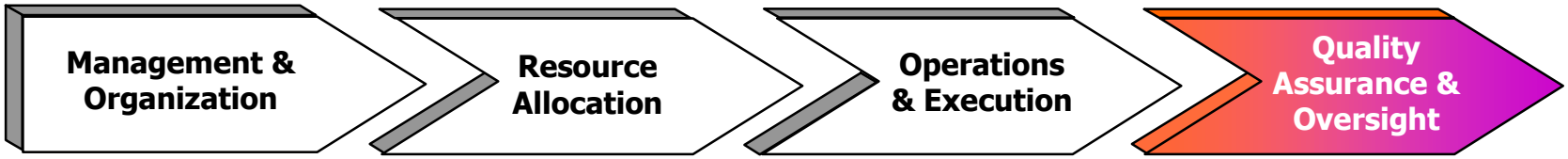
K. Oversight and Field Supervision

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Provide adequate field supervision and oversight.			X			Experienced WTP and raw water supervisors. Supervision time in the plants and field varies widely.
2. Apply policies in a fair and equitable manner.		X				Equity in daily management & execution of policies.
3. Routinely measure performance metrics.		X				Only some functions maintain & routinely monitor performance metrics.
4. Actively discuss performance with contributing employees.			X			Supervisors appear to make concerted, detailed effort to discuss employee performance. Tend to score all high.
5. Utilize an effective employee performance appraisal system that motivates staff.		X				Lack of incentives/goals for employees. Many feel that employee review procedures are superficial and subjective. Constructive criticism appears limited.
6. Use of activity based costing employed to monitor time, cost, and quality of service.	X					Disconnect between Maximo and FMS make activity-based costing very difficult. Not utilized.
7. Have effective communication methods to keep entire organization appraised of key outcomes and decisions.		X				Water Enterprise managers/supervisors typically hold weekly meetings. Utilize several printed communications (GM Newsletter and Aquafacts). Direct communication from staff to management is still limited.
8. Management communicates to staff in open, honest and factual ways.			X			Many staff feel that they are not always accurately briefed or that the communications are completely open.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.3**

Effective Practices Analyses - Water Operations



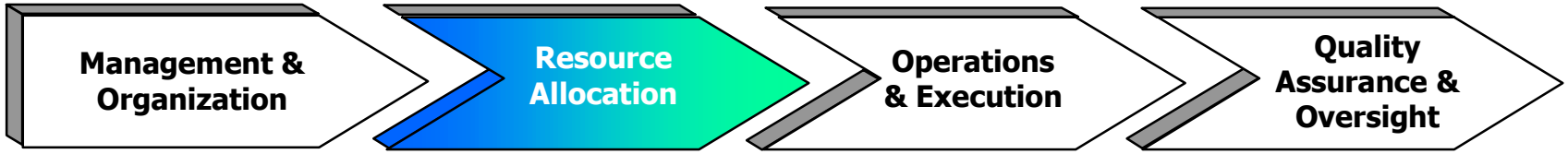
L. Audits, Self-Inspections and Corrective Actions

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
1. Formal internal audit program to review plant activities and performance against predetermined goals.			X			Board and staff conduct periodic audits of functional areas. Recently completed QualServe evaluation.
2. Frequent self-inspections by key personnel.			X			Plant supervisor and lead operator inspect plants. Many supervisors do not spend adequate time in the field.
3. Meaningful performance measures are periodically reviewed by senior management.	X					Senior management has very few meaningful cost performance measurement tools.
4. Senior management requests explanations for variances.		X				Management reports are missing key information. Limited coordination of metric between plants. Backlog of preventive maintenance metrics show many maintenance activities not being completed on time.
5. Prompt and appropriate corrective actions to minimize future risks/ liabilities.		X				Decision and strategy by committee and lack of accountability results in limited or slow implementation of actions.
6. Primary focus on correcting the root cause, not just the symptoms.			X			Good history of focus on root cause.
7. Timely and appropriate feedback of corrective actions to staff.		X				Staff are not generally debriefed on results (e.g., QualServe recommendations & corrective actions taken).
8. Corrective actions are sustainable.			X			Plants operating well. Years after the re-organization, the District faces some of the same problems as before: organizational clarity, efficiency, IT, and cost of services.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.4**

Effective Practices Analyses - Water Operations



M. Training Program

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Initial and on-going training for all employees.		X				Only operators are trained. No training plan for Mechanics
2. Various modes of training to accommodate different needs.		X				In-house and external training available. No shadowing/ mentoring program. Catalog of elective classes.
3. Sufficient time and resources for training.				X		There appears adequate funding for training. Employees' 40 hour allotment of training time is rarely used up. Not enough staff - L. Schafhauser, D. Bancroft, and J. Grant.
4. Tracking of each individual's training program.		X				Some tracking is being implemented but is not extensive.
5. Coordination between the various types of training.	X					There is no coordination between H&S, internal, and external operator training.
6. Incentives/motivation to attend training sessions.				X		Full allotment of training time is rarely used up. No credit for attending training sessions on own time.
7. Management's and Staff's acceptance of training as critical component to District's success.		X				Staff are interested in and see benefits of training, but it is hard to get them to do in-house training.
8. Cross training.		X				L. Schafhauser tries to incorporate other team members in operator training but no formal cross training program.
9. Combination of mandatory and elective training.				X		Both mandatory and elective training are available.
10. Staff input into new training possibilities.				X		Staff have discretionary training accounts.
11. Well defined goals of training program.		X				No defined set of goals for the training program.
12. Transfer of knowledge from training sessions to workplace.		X				No formalized method of putting new skills into practice.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.3**

Water Quality

BACKGROUND

Responsibilities for maintaining water quality within the District are currently shared among the Water Resources Group (under the Assistant General Manager for Flood Management), the Operation and Maintenance (O & M) Group and the Water Quality/Laboratory Group (both under the Assistant General Manager for the Water Utility). The water quality linkage between these groups and various units is somewhat informal. Some of the units are shown with dual reporting relationships (e.g., reporting to both Flood Management and Water Utility) on the District's organization charts.

The water quality functions related to water supply (Water Quality, Laboratory, Underground Storage Tank Program) are housed under the Water Resources Group Manager but also report, through a Deputy Group Manager to the Assistant General Manager of the Water Enterprise (see figure on the next page). Responsibilities for management of the quality of the District's various water sources appears to be split between several units, including, but not limited to, the Water Quality Unit, the Underground Storage Tank Program Unit, the Imported Water Unit, and the Laboratory.

The water quality at the treatment plants is currently the responsibility of the Facilities Operation Unit, supported by Facilities Management, Raw Water Field Operations, Water Quality, Laboratory Services, and other units. The Facility Operations unit operates the plants and reports compliance to the California Department of Health Services (CDHS). The Facilities Operation Unit has an informal relationship with the Water Quality Unit. As part of the orientation training for new employees, recently hired staff from the Water Quality Unit is assigned to the treatment plants operated by the Facilities Operation Unit for the purpose of providing engineering and process assistance to plant superintendents and operators.

The Water Quality Unit in coordination with the Laboratory Services Unit conduct distribution system monitoring. In general, the Laboratory acts independently and provides service to all areas of the District organization. Currently about 60% of staff laboratory resources are used in basic drinking water compliance monitoring, about 5-10% on research and development, and 30-35% on special projects/extra samples.

EFFECTIVE PRACTICES SUMMARY SCORECARD

The summary scorecard following the organization graphic summarizes the findings of the Performance Evaluation for Water Quality. The individual criteria sheets are provided following Opportunities for Improvement in a series of "Efficiency and Effectiveness" tables. These tables present the utility's rating compared with industry effective practices for each of the focus areas under review. Evaluation comments are presented to describe the corresponding practice within the District to support the ratings.

Water Quality (continued)

CURRENT ORGANIZATION UNIT REPORTING RELATIONSHIPS

P. Kay Whitlock, Asst. General Mgr.
Flood Management

- **Water Supply Policy & Planning**
- **Flood Management Policy/Planning**
- **Water Quality Unit**
- **Community Projects Review**
- **Imported Water**
- **Underground Storage Tank Program**
- **Water Conservation Program**
- **Hydrology/Geology**
- **Environmental Resources Management**
- **Laboratory Services**
- **Well Services**
- **Water Resources Technical Services**
- **Facilities Planning & Design**
- **Construction Administration**
- **Systems Planning and Design**
- **Project Development Technical Services**
- **Land Surveying and Mapping**

Walt Wadlow, Asst. General Mgr.
Water Enterprise

- **West Watershed Field Unit**
- **Central Watershed Field Unit**
- **East and South Watershed Field Unit**
- **Special Projects Field Unit**
- **Raw Water Field Operations**
- **Facilities Management**
- **Facilities Operation**
- **Water Measurement Services**
- **Equipment Management**
- **Facilities Engineering**
- **Water Management Strategy**
- **Water Supply General**
- **Groundwater Management**
- **Water Retailers Coordination**
- **Laboratory**
- **Underground Storage Tank Program**
- **Drinking Water Quality**

Units with primarily a water supply/resources focus

Units with primarily a water quality focus

Units with primarily a flood management focus

NOTE: Discrete projects shown on District organization charts have been excluded.

Water Quality (continued)

NOTED SUCCESSES

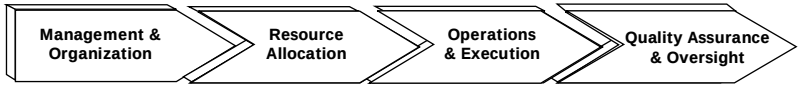
Our evaluation team noted several areas of District Water Quality and Water Resources Planning that were above industry standards. A brief discussion of these noted successes is presented below.

Customer Service

Overall, the District has consistently delivered high quality water to its customers. Only minor non-compliance events have occurred during the past twenty years.

The District has also historically maintained a good relationship with its retailers. Through its quarterly Water Retailers Committee meetings, the District maintains contact with its primary customers. In addition, a series of subcommittees have been set up to facilitate discussion and resolution of specific technical and business issues of common interest. Each of these subcommittees has a District staff person assigned as a principal contact within the District and source of information for the retailers, as shown on the next page.

Effective Practices Analyses – Water Quality



Qualitative Competitiveness Scorecard

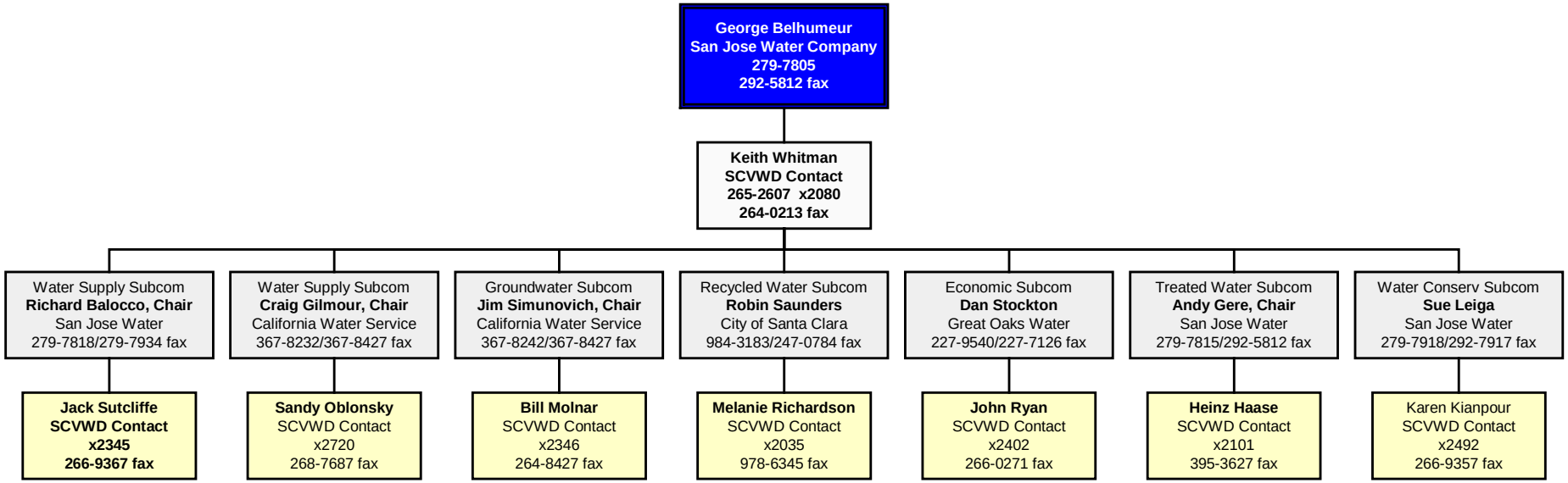
Qualitative Areas of Review	*Score* (1 2 3 4 5)	*Grade*
A. Water Resources Planning & Programs		3.1
B. Water Quality Programs		2.7
C. Policies and Procedures		2.4
D. Organizational Structure		2.3
E. Accountability, Roles and Responsibility		2.2
F. Performance Measures		1.7
G. Regulatory Compliance		3.2
H. Audits, Self Inspections and Corrective Actions		2.0

1 - Significant room for improvement, 3 - Typical utility performance, 5 - Demonstrated best practice

In addition, the District has initiated several programs to improve customer service. The District recently assigned one of its Executive Project Managers to serve as an "ombudsman". This individual's role is to help District customers get issues resolved when they are unable to do so through "normal" channels, for whatever reason.

Water Quality (continued)

WATER RETAILERS COMMITTEE ORGANIZATION



Other programs include:

- Improving response to data inquiries;
- Facilitating permit turnarounds;
- Working with customers to obtain compliance for well maintenance.

The District also currently conducts public outreach activities, such as school programs and advertising, on several issues including conservation and water quality in an effort to communicate with its “ultimate” customers.

Forward-looking Programs, Policies & Procedures

The District is dealing with new issues like stream management and endangered species. Water Quality staff have responded to the MTBE issue and have been successful in identifying and evaluating potential impacts to ground water sources. The District’s MTBE Program was ahead of the regulations and provided leadership and information to the State Water Resources Control Board and the San Francisco Bay Area Regional Water Quality Control Board.

The District has also been proactive with regard to water treatment. Using internal resources, new treatment technologies were identified to meet water quality and regulation standards (*e.g.*, Stage 2 DBPR) without excessive research and expense. Long-term planning studies have proven beneficial and have included involvement of Operations.

Work Environment, Communications and Teamwork

Overall, the staff is highly skilled, enthusiastic and motivated. Several successful initiatives and programs have been started at the staff level through employee initiative. Staff members believe that the good work environment provides opportunities for individuals to work "outside the box" and expand their horizons. Examples of the positive work environment include:

- Employee recognition and on-the-spot awards providing opportunities for peer recognition are widely used and applauded.
- Reasonable training budgets are established allowing employees to improve their skills.
- The matrix management approach for projects allows teams to be comprised of District personnel from Project Management and several other District units, which in turn, broadens employees' perspective on the District and benefits each project.
- The 1995 reorganization has broken down the "silos" in the District and made communication and teamwork more effective. For example:
  - to facilitate communication with Operations, a Water Quality Engineer has been assigned to each treatment facility;
  - the Water Quality unit now works closely with Operations to improve treatment processes such as designing a jar test protocol for the treatment plants;
  - the Water Quality unit is assisting the updates of the Operations Plans;
  - Water Quality unit personnel attend Operations meetings on a regular basis;
  - the Water Quality unit has assisted in the development of other improvements to daily work procedures; and
  - Units with primarily flood and steam management responsibilities were assigned to the Water Utility and vice versa, requiring inter-unit communication and coordination.

AREAS OF POTENTIAL IMPROVEMENT

Based upon our review of the Water Quality function, our evaluation team noted the following potential areas for improvement. Each of these areas have been identified as having significant opportunities for cost-effective or efficiency improvements. A more detailed description is provided on the following pages for each of these potential opportunities.

Water Quality (continued)

Issues

There are eight major new rules that will require compliance in the next several years. The six new rules most likely to impact the District are listed in the sidebar. Historically, the water quality function grew in lockstep with the promulgation of new drinking water regulations simply adding one new program or analysis to the existing program without a consideration of the overall program. It is important to periodically step back and reassess the entire water quality function in the context of the total organization:

- Does the monitoring approach match the values the organization places on compliance?
- Are there regulatory areas that need additional attention?
- Do the various parties responsible for generating, managing, acting on and reporting water quality information do so seamlessly?

Water quality functions are currently distributed throughout the District. Responsibility is typically split between the Water Resources and O&M Groups, which are joined only informally and report to two different Assistant General Managers. The extent to which coordination occurs appears to be driven by the quality of interpersonal relationships as opposed to formal documents specifying responsibility, accountability and communication among these units. Meeting regulations in the future will require effective conduct of the monitoring and laboratory function, and close cooperation between the Water Quality, Operations & Maintenance, and engineering staffs. Anything short of cooperation and seamless information sharing between these organizational units is a recipe for non-compliance. Clear lines of communication and delegation of authority are vital.

Major New Rules

- *Stage 1 Disinfectants/Disinfection By-Products Regulation (DBPR)* – sets maximum contaminant levels for certain disinfection by-products, maximum residual disinfectant levels for disinfectants and a total organic carbon treatment technique for certain water filtration plants.
- *Stage 2 DBPR* – may further tighten the Stage 1 standards.
- *Interim Enhanced Surface Water Treatment Rule (Interim EWSTR)* – features stricter turbidity standards and *cryptosporidium* removal requirements.
- *Filter Backwash Rule* – establishes minimum requirements
- *Radon Rule* – establishes MCL for radon.
- *Arsenic Rule* – establishes MCL for arsenic.

Closer managerial integration of these functions is needed. Currently the source water management function seems fragmented. There is no clear designation of ultimate responsibility for water quality issues. For example, two separate groups perform groundwater and surface water monitoring. It is likely that efficiencies could be achieved by consolidating these groups (more efficient sample collection routes, combined training, etc). A single line of authority is needed to assure integration of function, including watershed management (surface and groundwater, quality and quantity), treatment performance, and distribution system integrity. Multiple managers can only successfully manage the system when clear lines of responsibility, authority, and accountability are documented and comprehensible performance criteria/objectives are in place. Successful implementation requires either a formal delegation of authority or close interpersonal relationships between the key managers to avoid confrontation.

Opportunities for Improvement

Goals and Identified Treatment Levels

Based upon the interviews with water quality staff, it is not clear that specific treatment goals have been adopted for plant performance. Such goals should be established based on the District's water quality policy and resulting compliance strategy. These goals must be understood by operations staff and have specific consequences associated with violations. These goals/action triggers should include maximum filtered water turbidity for combined and individual filters (level set with an adequate margin below the standards to allow reaction time), pH, disinfectant residual and any other "operational" water quality parameters that, left unchecked, could cause a spiral into non-compliance with primary drinking water regulations. Minimum and maximum triggers should be set where applicable.

Consolidation of Compliance Functions/Reporting Responsibility

The Operations and Maintenance Group has the responsibility for compliance with drinking water regulations at the water treatment plants. The Laboratory Services Unit of the Water Resources Group appears to have responsibility in the distribution system such as reporting for total coliform compliance to the California Department of Health Services (CDHS). The Water Quality Unit responsibilities are undocumented. Several units currently report to and communicate with the various regulatory agencies without routinely seeking input from other District units regarding regulatory status and issues. For example, several people interact with the CDHS staff. Over time, this approach is likely to foster confusion and mixed messages. There should be clear and unequivocal delegation of authority, responsibility and accountability for compliance. Responsibilities should be documented clearly and agreed to by the affected managers.

The Water Quality Unit should set process design criteria, determine operational strategies for compliance, and establish plant operational criteria during water quality emergencies or exceedance of goals/triggers. As a base condition, plant operators have the responsibility to operate the plant in compliance with District policy. However, the responsibility for compliance is ultimately the responsibility of the Assistant General Manager of the Water Enterprise (or his/her designee). Information sharing and cooperation among Water Operations, the Water Quality Unit, and the Laboratory are necessary to minimize disagreements. In case of disagreements, a senior-level process engineer with extensive water treatment experience, designated by the AGM, should have ultimate authority for setting the proper course of action in handling a water quality problem.

In addition, primary points of compliance responsibility should be identified. The District should designate a senior-level person from the Water Quality unit as "compliance officer". The compliance officer would be the single point of contact for *all* CDHS interactions. This position should be independent of the operations group but rely on operational data to prepare and submit the necessary reports. The compliance officer should assemble, interpret and report compliance information to CDHS as well as coordinate responses to CDHS information requests. The compliance officer's responsibility would include review of all laboratory-generated data prior to distribution to the CDHS.

Water Quality (continued)

Laboratory

The laboratory currently operates effectively with significant independence and latitude. There has been little guidance from senior management regarding prioritization of laboratory functions and resources. In the absence of such explicit direction, staff appears to have defined their role in water quality that they believe is appropriate. Potential water quality focus areas to be pursued range from simple basic compliance monitoring (with significant contracting out) to innovative analytical leadership in applied research. The cost implications of the range of choices are significant and should be made consciously by the District's Board and management.

Given the current space restrictions in the laboratory facilities at the Rinconada Water Treatment Plant, the staffing limitations and the regulatory burden, District management should reassess the distribution of staffing resources among compliance, R&D, and special projects to ensure that the approach aligns with the District's current goals and objectives.

The District has been considering construction of new laboratory facilities for approximately ten years. As this report is being written, the District Board is considering a project to build a new stand-alone, 15,000 square foot laboratory. However, it does not appear that the Board has established a clear mission for the laboratory. Depending on this mission, the District's laboratory could range from a large laboratory capable of many types of complicated analyses to quite a small laboratory only handling routine samples and analytical work. In addition, several other water laboratories (e.g., California Water Service Co, San Jose Water Co., and many contract laboratories) operate in the area. It may be possible to achieve significant efficiencies by "partnering" or contracting with one or more of these laboratories and allocating, or sharing responsibilities for various types of analyses. Given the high capital cost of laboratory facilities, the District Board should establish a clear laboratory mission so that, if facilities can be constructed, they will allow accomplishment of the mission in an efficient manner.

Sampling Procedure

One sampling group should handle all compliance monitoring/sampling. Ground water sampling and surface water sampling groups should be merged.

Responsibility for consistent sampling and analytical procedures should fall primarily to the Laboratory Services Unit. The Laboratory Services Unit should be responsible for training plant lab technicians/operators in proper analytical techniques as well as routinely reviewing Quality Assurance/Quality Control performance and data.

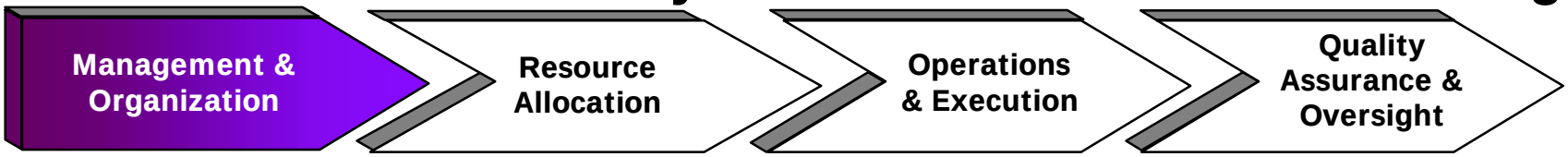
Water Quality (continued)

Use and Integration of LIMS (Laboratory Information Management System)

Significant resources have been allocated for collection and generation of water quality information. However, staff access to data is still limited. The long-term value of the information is dependent upon ease of access and archival of information. Water quality monitoring information from all three plants, plant process labs and from the main laboratory should be readily accessible in summary format for Plant Operations staff, Water Quality Unit staff, management, planners, and the Board. Management should examine water quality information needs and data availability and develop a data management plan to ensure information availability. This will involve integrating operational and LIMS data.

There are currently few trending tools available for analyzing the data compiled. Summary reports formats need to be created and provided to managers to allow a quick check of compliance and trends. Management and entry of laboratory data should continue to be handled by the generating unit, either the Laboratory or the O & M group.

Effective Practices Analyses - Water Resources Planning



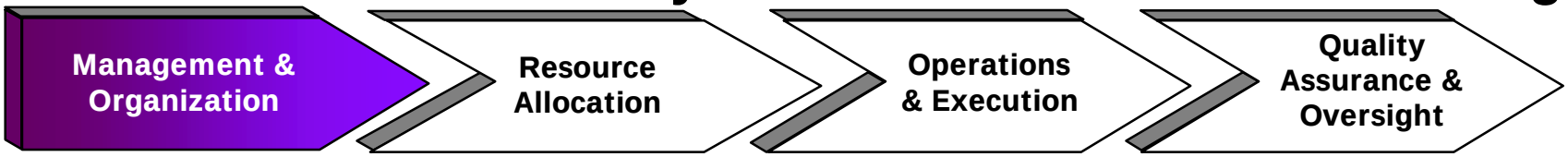
A. SCVWD Water Resources Planning & Programs

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Possess and regularly update a water supply master plan, including: a) demand projections of user agencies integrated and harmonized to achieve internal equity. b) supply alternatives to achieve agreed reliability, cost effectiveness			X			In process of updating IWRP prepared in 1996. Revised document should address shortcomings of original plan (lack of economic information, environmental considerations, rate effects and water quality factors).
2. Prepare and regularly update a long-term (≥ 20 year) forecast of water demand			X			20-year forecast being updated as part of IWRP. Updating has been sporadic in the past.
3. Maintain multiple sources of raw water supply, ideally from both surface and ground water sources.				X		Excellent diverse supply system consisting of 2 Delta supplies (1 Federal, 1 State) plus local ground and surface storage, and Central Valley groundwater storage.
4. Have water rights and/or enforceable water supply contracts that produce predictable future deliveries.				X		Federal and State contracts subject to cutbacks in dry years. Local ground water and Semi-tropic provide reliable backup supply except under conditions of extended drought. Available delivery capacity may be limited.
5. Utilize a validated water resource model which allows evaluation of various month-to-month operating scenarios and includes operating costs and qualities produced.			X			Planning and Policy unit provides modeling capabilities. Some custom programs or modifications have been made.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.1

Effective Practices Analyses - Water Resources Planning



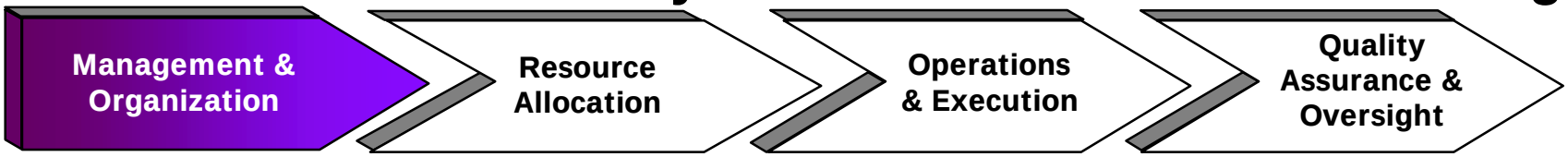
A. SCVWD Water Resources Planning & Programs (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
6. Water quality is a significant factor in the use of existing water supplies and consideration of alternative supplies.		X				Water quality considered to a limited degree. District has limited short-term ability to affect raw water water quality, but can modify by blending supplies. Long-term quality depends on politics and results of CALFED.
7. Optimize water treatment with sources and available technology.			X			Fairly conservative approach to treatment plant modifications (ozone, etc.) at WTP's. Transfer ability excellent, but not optimized with respect to source quality.
8. Actively participate in State-wide water supply forums and discussions with the goal of protecting adequately and enhancing District's water supply reliability in dry years.				X		Assistant General Manager plus State lobbyist are active. Work cooperatively with other local urban water utilities to affect water supply reliability.
9. Actively and regularly monitor/audit cost of water provided by Federal and State governments for reasonableness and consistency.		X				Purchased water is the largest item in District budget, but only one individual at District has detailed knowledge of financial aspects of CVP and State Water Project water costs.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.1

Effective Practices Analyses - Water Resources Planning



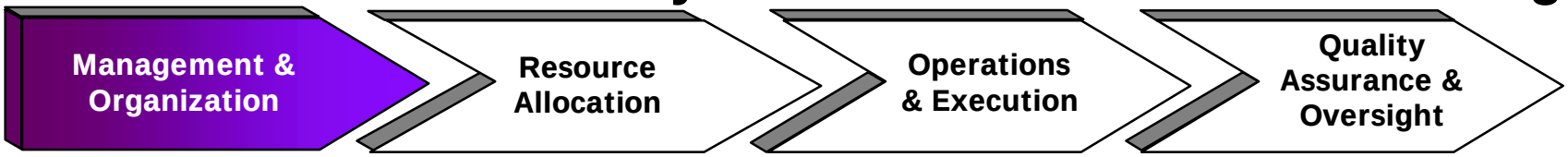
B. SCVWD Water Quality Planning & Programs

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Maintains close working relationship and information sharing with Operations and the Laboratory.		X				Recent attempts to bridge traditional communication gaps were successful.
2. Promotes cohesive relationship with DHS District Engineer.		X				Formal internal procedures regarding points of contact and information shared are needed.
3. Provides coordination of water quality compliance reports (laboratory and treatment operations) submitted to regulatory agencies.	X					Independent reports currently submitted which lack consistency and adequate review.
4. Encourages high level of knowledge and understanding of current and anticipated drinking water standards both at the state (DHS) and Federal (EPA) levels.					X	District is highly involved in outside technical activities with utilities, regulators and professional organizations which should be continued.
5. Maintains industry standard bench and pilot-scale facilities to conduct evaluations of treatment optimization and new technologies.					X	District utilizes own bench and pilot-scale facilities. Effective experimental procedures implemented.
6. Responsive to addressing water quality concerns (i.e., MTBE).				X		District is very proactive regarding water quality concerns and public health and safety.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.7

Effective Practices Analyses - Water Resources Planning



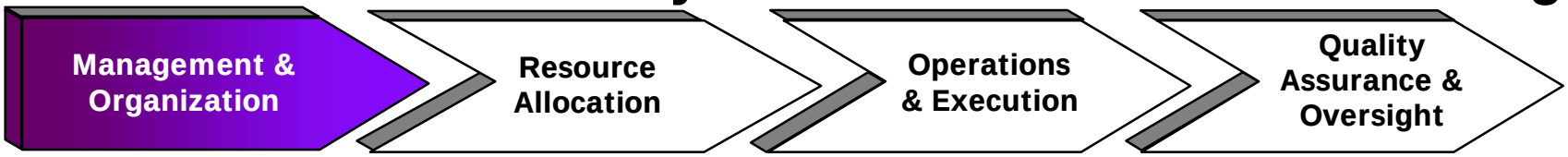
B. SCVWD Water Quality Planning & Programs (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
7. Meets drinking water regulatory requirements such as ICR monitoring and watershed sanitary survey report preparation in a timely fashion.			X			Generally, timely on regulatory requirements provided resources (e.g. staff) are adequately scheduled and prioritized.
8. Well-defined water quality emergency notification procedure between water treatment operations, the laboratory, and the water quality unit has been implemented and is well understood by all affected staff.	X					Formal notification procedures are needed. Need to develop and document internal emergency notification procedure emphasizing Water Quality Unit as the focal point.
9. Water quality is a significant factor in management decisions through use of timely, accurate information.		X				Currently, executive management does not frequently review water quality reports. Goal should be to provide "real-time" water quality reports/online data.
10. Control of watershed to protect water quality.		X				Watershed management plan delayed by higher priorities (MTBE project). Develop watershed management plan for water quality control.
11. Integrate delivery of groundwater and surface water to produce highest quality water.		X				Reorganization combined ground water and surface water units. Cross-train staff to improve staff integration and establish single point of responsibility to optimize long-term quality.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.7

Effective Practices Analyses - Water Resources Planning



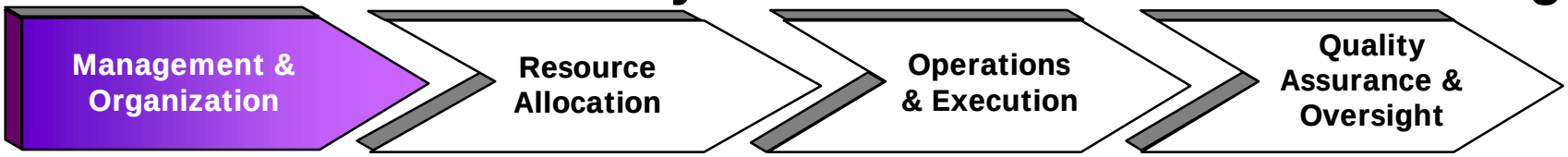
B. SCVWD Water Quality Planning & Programs (cont'd.)

Efficient and Effective Elements Desired Behaviors	***Score*** 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
12. Effectiveness and efficiency of overall laboratory operations (e.g., integration of WTP process laboratories with main laboratory; laboratory water quality data is easily accessible by multiple users.)	X					Laboratories operate independently but are effective despite the inefficient layout. Facility upgrades are needed to ensure continued effective operations. Develop / document standard QA/QC procedures for all lab operations. Limited accessibility to data by all staff. Currently hiring data management staff to assist with improving access to data.
13. Establishment of a mission and well-defined strategic plan for the Laboratory.		X				Laboratory has no clearly-defined mission. Develop mission and strategic plan for laboratory to better integrate activities and achieve efficiencies.
14. Proactively develops analytical procedures for newly-regulated drinking water parameters.				X		Staff informed about new analytical developments. However, there is no formal decision-making process regarding the justification for analytical procedures development.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.7

Effective Practices Analyses - Water Resources Planning



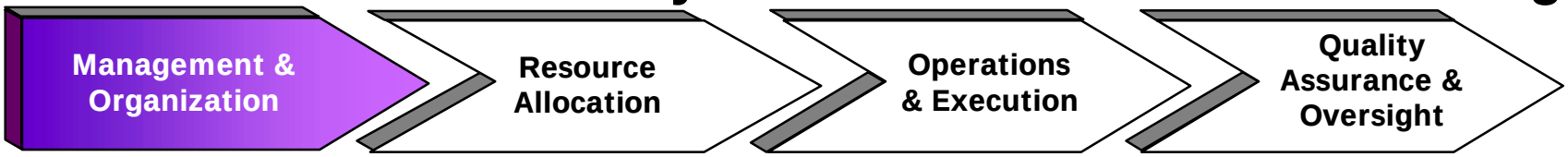
B. SCVWD Water Quality Planning & Programs (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
15. Involvement in the water industry. Utility personnel attends appropriate technical conferences and workshops providing opportunity for education and professional development.				X		District involvement is proactive. Emphasis on technical conference / workshop attendance is important. Significant number of staff allowed to attend conferences.
16. Addresses water quality and regulatory issues with retailers in a timely fashion.			X			Routine informational meetings with retailers (both technical and administrative) are vital. Procedure for more timely exchange of water quality information during significant fluctuations is not defined. At least one water quality event has occurred in the last five years when a customer felt notification was not timely.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.7

Effective Practices Analyses - Water Resources Planning



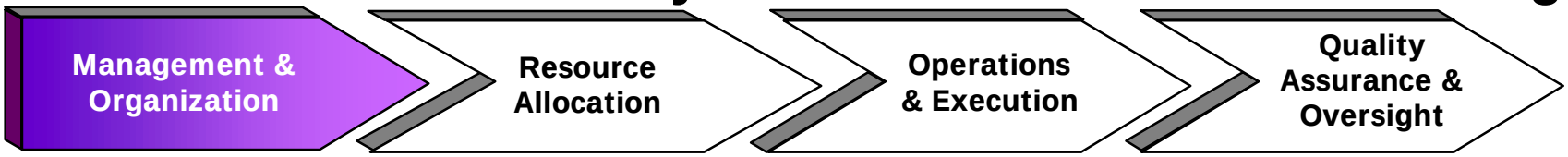
C. SCVWD Policies and Procedures

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Water quality and water resources policies are well defined.		X				Need better communication of priorities from executive management to staff. Current business plan is good initiative, but it needs to identify specific tasks and projects.
2. Policies promote competitive behaviors.		X				Level and cost of service are not a priority. Models and other tools for cost optimization not available.
3. Key supporting documents are kept current and are readily available.			X			Currently updating IWRP, also need to develop watershed management plan.
4. Procedures and work practices are implemented consistently across business units.		X				Some inconsistencies in management of units. LUST unit pushing decision-making down. Staff do not need supervisor approval on all activities associates with clients. Governing procedures lacking in many areas. Lack of clear direction at staff level.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.4

Effective Practices Analyses - Water Resources Planning



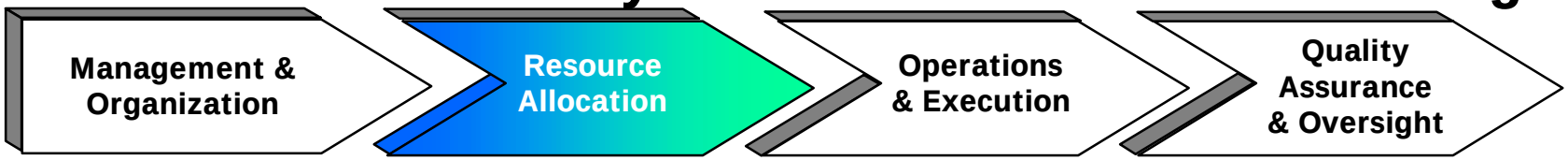
C. SCVWD Policies and Procedures (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
5. Procedures are used routinely by staff as reference.		X				Procedures lacking in many areas.
6. Well-defined water quality emergency notification procedure.		X				Internal and external notification procedures are insufficient.
7. Procedures incorporate achievable best practices.			X			Recently implemented project prioritization process is viewed favorably. Procedures do not consolidate reporting requirements. Few defined prioritization processes to prioritize resources within units (e.g. new analytical method development).
8. Periodically reviewed and updated for continual improvement.				X		IRWP being updated. LUST Unit streamlining and updating SOP's.
9. Comprehensive plan for long-term needs.		X				IRWP is good tool, but often maintain status quo. Plan doesn't address chronic problems (e.g., IT, abandoned wells).

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.4

Effective Practices Analyses - Water Resources Planning



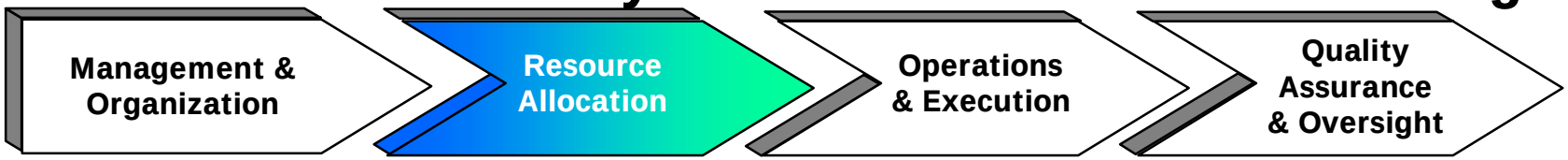
D. SCVWD Organizational Structure

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Effective organizational structure to meet current and future demands.		X				Past reorganization broke silos/barriers. Needs further alignment of functional areas. Several key units (water quality, lab, supply) are not efficient when located outside Water Enterprise. Perception exists that Project Management Group is not effective overall due to lack of accountability and prioritizing of staff resources.
2. Centralization of common functions.		X				Project Management Group improved management of schedule and budgets. Some groups are too diverse (e.g., Water Resources Group); difficult to define mission.
3. Close relationship and information sharing among departments.			X			Past reorganization has improved communication. Divisions appear to work more closely together to solve common problems (e.g., Water Quality & Operations).
4. High adaptability for restructuring priorities.			X			Matrix structure appears very adaptable.
5. Relatively flat organizational structure.		X				Six layers exist between Executive Management and staff.
6. Well defined organizational optimization plan.		X				No current staff optimization plan. High use of long-term temps. Limited career mobility in some functions. No succession planning. No formal career progression plan.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.3

Effective Practices Analyses - Water Resources Planning



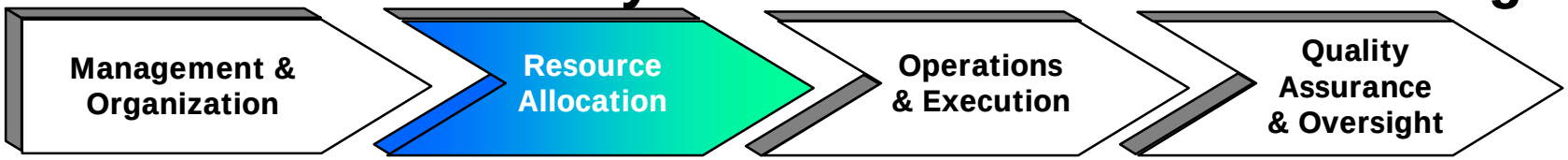
D. SCVWD Organizational Structure (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
7. Adequate inter-communication channels from executive management to supervisors and staff.		X				Many staff apparently feel management doesn't adequately explain decisions or newly-implemented policies. Limited communication between divisions / projects results in some duplicated efforts.
8. Flexibility in assignment of staff.			X			Staff are highly skilled and flexible. Allowed to work across boundaries. Project Management uses pool of staff. Need to account for cross-department work in individual budgets.
9. Adequate management, supervision and oversight.			X			Some staff feel they are not given enough direction. Potential need for additional guidance / mentoring. Some managers are actively trying to address QualServe recommendation of more interaction with staff.
10. Incentives to motivate dedicated and skilled employees.		X				Peer recognition is only incentive. Limited incentive or management recognition program.
11. Positions/ vacancies are filled with qualified personnel in a timely manner.		X				Past recruitment process too lengthy. Streamlining efforts being pursued. Often doesn't emphasize skills as top priority.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.3

Effective Practices Analyses - Water Resources Planning



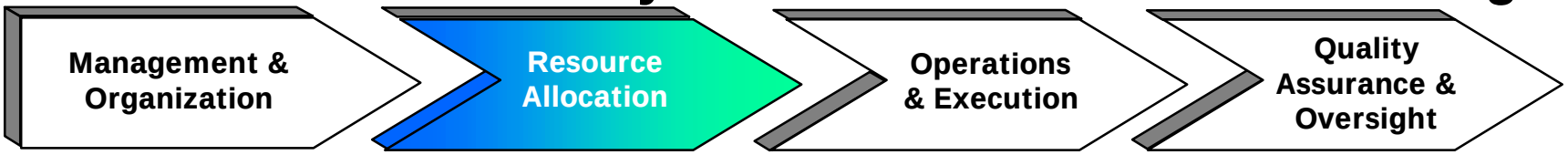
D. SCVWD Organizational Structure (cont'd.)

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	*Comments Regarding SCVWD's Performance*
12. Minimizes the need for overtime.		X				Shortage of staff or slow hiring process may result in insufficient execution. Exempt overtime is not closely monitored.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.3

Effective Practices Analyses - Water Resources Planning



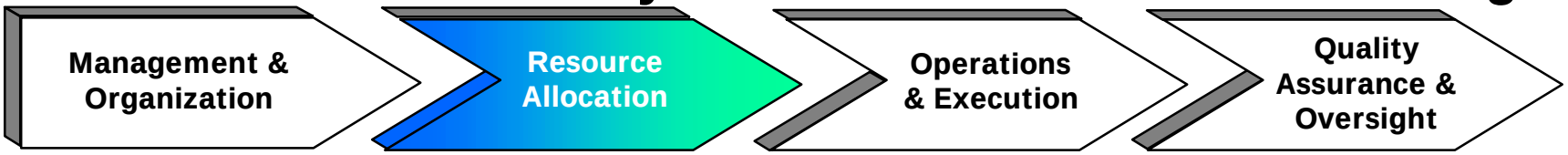
E. SCVWD Accountability, Roles, and Responsibility

Efficient and Effective Elements Desired Behaviors	***Score*** 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
1. Well defined and documented roles and responsibilities in each function throughout the utility.		X				Matrix lines of authority and accountability are confusing. General rules are well understood but not details. Example, Water Resources Group appears to exist only for administrative reasons.
2. Management has proper accountability, authority and responsibility.		X				Limited authority and performance measures to support accountability and responsibility. Accountability initiative at staff level, but few monitoring tools.
3. Managers understand their respective roles and responsibilities.			X			Although missions and responsibilities are not explicitly stated, managers understand roles well.
4. Responsibilities are clearly communicated and understood by staff.		X				Staff sometimes torn between line and project responsibilities due to lack of prioritization. Some unit function and responsibilities not adequately communicated outside that unit. Limits staff understanding of District functions as a whole.
5. Staff possessed a high degree of personal responsibility and accountability.			X			Most staff appear highly self-motivated. Limited accountability imposed by management, especially on projects.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.2

Effective Practices Analyses - Water Resources Planning



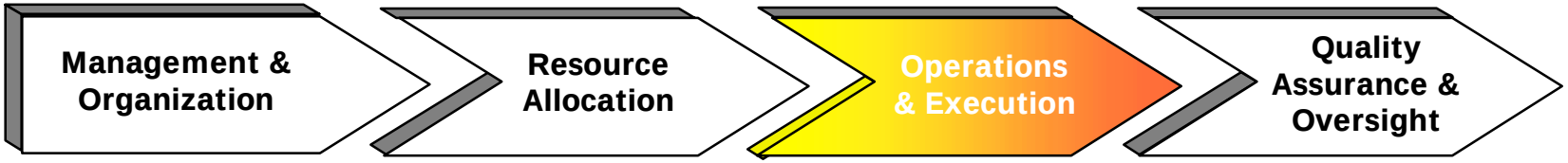
E. SCVWD Accountability, Roles, and Responsibility (cont'd.)

Efficient and Effective Elements Desired Behaviors	***Score*** 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
6. Ensure that adequate resources are available to assist employees fulfill designated roles.		X				Slow hiring process and lack of prioritization has caused resource shortages. More supervisory/project management training and cross-unit budgeting process would be helpful.
7. Supervisors acquire feedback from staff about the assigned roles and responsibilities.		X				Staff fell they do not receive management support on new efforts or initiatives developed at staff level.
8. New programs are fully implemented to achieve maximum value.		X				Lack of commitment to and many undefined program implementation timetables. For example, Watershed Management Plan put on hold due to MTBE Program. Performance Metrics Program "died" when key personnel transferred to different assignments.
9. Periodically review and update the roles and responsibilities as needed.		X				No regular programs for updates; largely an informal process.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.2

Effective Practices Analyses - Water Resources Planning



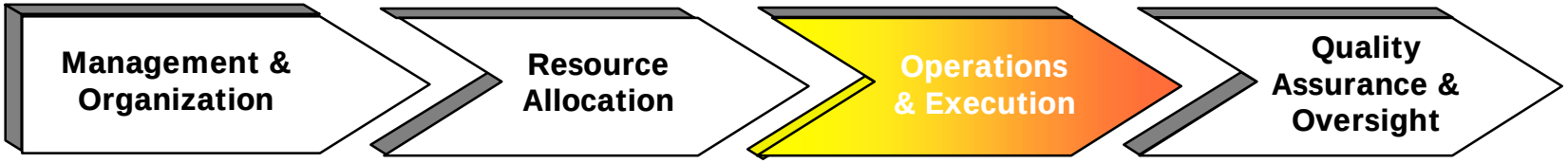
F. SCVWD Performance Measures

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Performance metrics are meaningful, defined and reproducible.	X					Do not exist for the most part in Water Resources and Water Quality Units.
2. Aligned with vision and goals.		X				Priorities of District are not specific enough to allow WQ/WR employees to clearly understand their objectives.
3. Use consistent performance measures throughout the utility.		X				Performance measures are only implemented on a localized basis (i.e., LUST program, Water Resource Planning).
4. Communicated performance goals and actuals to all staff.		X				Supervisors review of performance metrics appears limited.
5. Encourage cost effectiveness of service.	X					Cost of service is not generally the focus for Water Quality and Water Resource Planning.
6. Consistently exceed desired goals .		X				Focus on water quality is high. WQ/Lab staff appear committed. Goals of Water Resource Planning not well-defined.
7. Measures drive employee productivity and performance.	X					General lack of performance measures and limited documented accountability.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 1.7

Effective Practices Analyses - Water Resources Planning



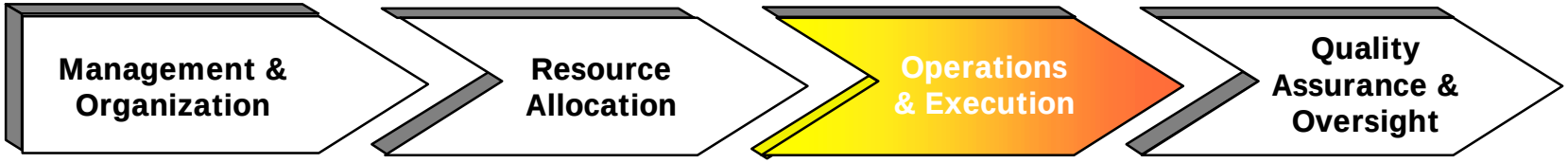
F. SCVWD Performance Measures (cont'd.)

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	*Comments Regarding SCVWD's Performance*
8. Include both process and output measures.		X				No integrated performance measures apparent in either Water Quality or Water Resources Planning areas. Some "local: measures have been implemented.
9. Periodically monitor the performance measures and communicate them to staff..		X				Performance measures are not adequately circulated or reviewed.
10. Periodically update the performance measures to achieve new business goals.		X				Only localized.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 1.7

Effective Practices Analyses - Water Resources Planning



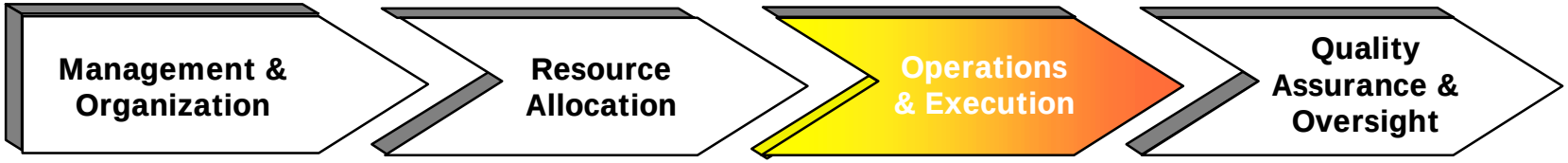
G. SCVWD Regulatory Compliance

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Conform to all applicable rules, regulations, and guidelines.			X			Compliance generally good, but have had several minor incidents/close calls during past 2-3 years.
2. Consistently meet water quality standards and water supply needs				X		Quality and reliability is the primary focus. Operations (WR, WQ, Lab) staff very committed to compliance and their license responsibilities.
3. Minimize fines and penalties.			X			No recent fines or penalties.
4. Regularly meet with regulators.			X			District maintains working relationship with regulatory agencies.
5. Keep abreast of rule changes and new regulations.				X		Designated staff involved locally and nationwide. Long-term planning studies have been productive and include all necessary divisions.
6. Attend appropriate conferences or training seminars.				X		Staff designated or permitted to attend appropriate conferences for information or training needs.
7. Review proposed rules and regulations for their potential impact on District operations.			X			Plans for future compliance. Lack of internal staffing resources (financial and legal) to adequately review state and federal programs.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.2

Effective Practices Analyses - Water Resources Planning



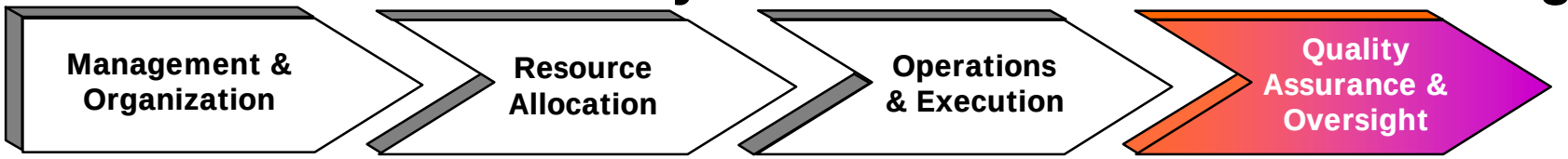
G. SCVWD Regulatory Compliance (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
8. Plan and implement cost-effective solutions to comply with regulatory changes.		X				Often incorporate additional "unnecessary" project components to satisfy public/stakeholders.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.1

Effective Practices Analyses - Water Resources Planning



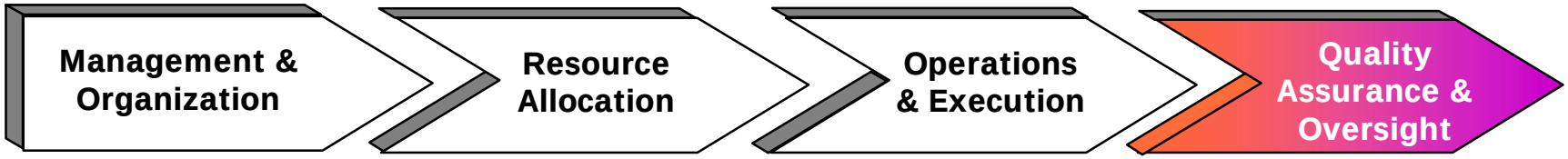
H. SCVWD Audits, Self-Inspections and Corrective Actions

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Frequent project/program reviews by key personnel.		X				Recent QualServe audit. Previous Process Improvement Teams. History of limited follow-through on findings.
2. Meaningful performance measures are periodically reviewed by senior management.		X				Some metrics are reviewed. Need better defined measures based on District priorities.
3. Senior management requests explanations for variances from goals.		X				Almost never, unless violation. No management review of operations plan at year end.
4. Prompt and appropriate corrective actions to minimize future risks/ liabilities.		X				Slow to communicate regulatory compliance issues both internally and externally.
5. Primary focus on correcting the root cause, not just the symptoms.		X				Instead of identifying/correcting root cause, level of decision-making is raised.
6. Timely and appropriate feedback of corrective actions to staff.		X				Staff often feels left out.
7. Corrective actions are sustainable.		X				

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.0

Effective Practices Analyses - Water Resources Planning



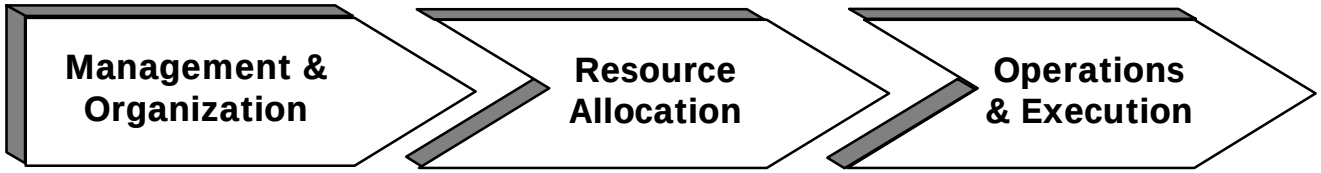
I. SCVWD Customer/Stakeholder Service & Interaction

Efficient and Effective Elements Desired Behaviors	***Score*** 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
1. Utilizes periodic Customer Satisfaction and Feedback Surveys.		X				Past customer satisfaction surveys. No yearly program.
2. Utilize frequent mailings and outreach programs to keep stakeholders / customers informed.			X			Recently formalized approach to stakeholders (e.g., County, local cities). LUST program uses workshops and outreaches to regulatory agencies, "customers" and public. Good relationship with retailers. Water quality person serves as communication liaison.
3. Routinely works with outside stakeholder or customer groups.			X			District teamed with outside agencies to address imported water needs. Involved at local, state and Federal levels.
4. "Customer Service" unit is adequately staffed and trained.			X			Highly skilled/expert staff are available as resource to internal staff and to provide customer services.
5. Division communicates with customer and "closes the loop" when responding to complaints/issues.			X			Staff diligent about responding to customers / stakeholders. Well services works with customers to achieve compliance. Quick turnaround on permits. Sometimes slow to communicate with retailers on compliance issues.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.9

Effective Practices Analyses - Water Resources Planning



I. SCVWD Customer/Stakeholder Service & Interaction (cont'd.)

Efficient and Effective Elements Desired Behaviors	***Score*** 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
6. Staff understands the goals and objectives of the utility and their respective functions and actively communicates these to customers.		X				Significant number of staff unclear as to exactly what their supervisor expects of them and how these expectations relate to District goals.
7. Performance measures are routinely tracked.		X				Some measures are tracked. Limited understanding of associated cost of services.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

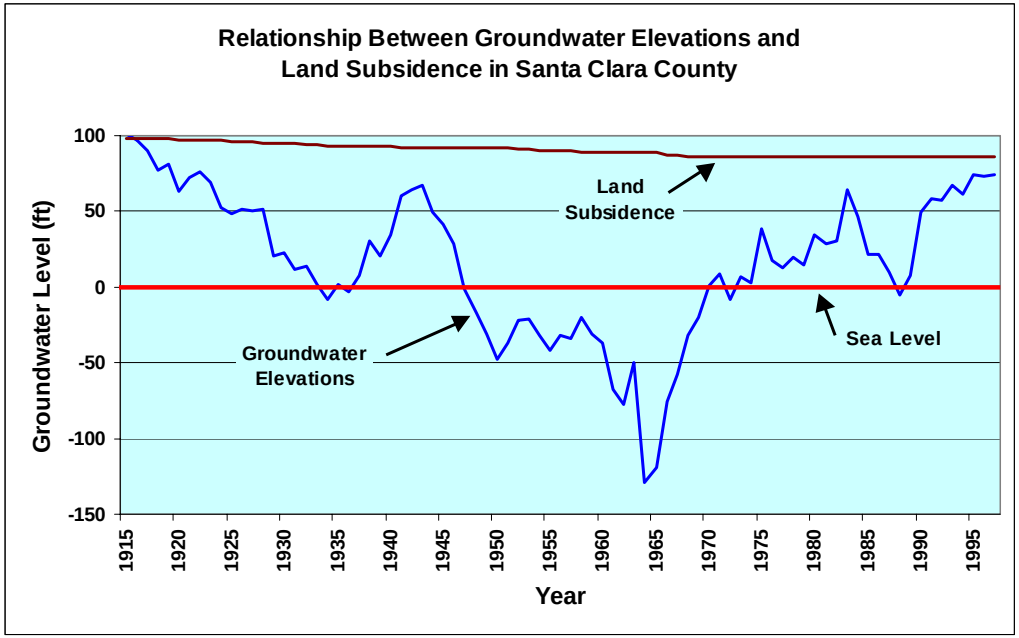
Average Score: 2.9

Water Resources Planning

BACKGROUND

Historically, Santa Clara County had relied on ground water for both municipal and agricultural needs, but the demands of agriculture and a growing population exceeded the natural recharge capacity of the ground water basin, resulting in declining ground water levels and land subsidence. The District built a number of local reservoirs to collect surface water runoff that are used as an alternative to groundwater and/or to recharge the groundwater basins of the County. Additional District water supply activities included pursuing contracts for an imported supply of water with the State of California and the Federal government. These imported supplies consist of Sacramento-San Joaquin Delta water furnished to Santa Clara Valley Water District through the South Bay Aqueduct (SBA) of the State Water Project and the San Felipe Division of the Federal Central Valley Project.

The SBA supplies water to Alameda County Flood Control and Water Conservation District Zone 7, Alameda County Water District, and Santa Clara Valley Water District. The terminus of the SBA is located adjacent to the District's Penitencia Water Treatment Plant. During the 1960's, the District constructed the Central Pipeline to deliver SBA water to the Rinconada Water Treatment Plant in Los Gatos. At these plants, the water is treated and then delivered to customers such as San Jose Water Company, the City of Sunnyvale and others to offset their use of ground water. Simultaneously, the District uses the imported SBA water to recharge the ground water basin in the northern portion of the County.



The second source of supply is the San Luis Reservoir, which is located on the West side of the San Joaquin Valley and is a part of the Federal Central Valley Project. The District constructed a pumping station, a tunnel and a series of pipelines to bring water from San Luis Reservoir into the southern portion of its system near the Santa Teresa Water Treatment Plant. Federal water was first delivered to the County in 1987. The Santa Teresa Water Treatment Plant was completed in 1989 and began treating primarily San Luis Reservoir water and delivering it to the District's customers.

Water Resources Planning (continued)

The results of the District's water supply planning and implementation efforts have been a recovery of ground water levels within Santa Clara County. The graphic at the right shows the ground water level in the County over time and clearly illustrates that the District's overall water supply strategy has been effective in correcting the ground water overdraft situation within the County.

More recently, the District has contracted with Semi Tropic Water Storage District in the San Joaquin Valley to provide underground storage of additional supplies for reliability purposes. The District currently has 120,000-acre feet stored in Semi Tropic's ground water basin. The intent of this program is to provide additional reliability to the District for dry years.

The District has developed a reliable, diverse water supply system. The District completed an initial analysis of its water supply in its Integrated Water Resources Plan (IWRP) in 1996. While there were certain deficiencies in this plan, the IWRP represented a sound first step toward balancing the competing economic, environmental, reliability and other variables impacting the District's water supply.

The District's water supply mission has been complicated further in recent years by increased public concern and regulatory restrictions associated with environmental issues. For example, constructing seasonal spreader dams to enhance in-stream percolation and groundwater basin recharge has historically been a relatively straightforward undertaking. In recent years, however, heightened concern from both environmental groups and regulatory agencies such as the Department of Fish and Game has made this District water supply strategy much more complex. While environmental and related goals are important, they do complicate the District's task in terms of preparing and implementing an overall water supply plan that is implementable and cost-effective.

Similar to the water quality functions, water resource units are currently split between the Water Enterprise and Flood Management Assistant General Managers, as shown in the figure on page 25. For example, the Water Supply Policy & Planning, Imported Water, Hydrology/Geology and the Well Services units report to the AGM for Flood Management. The Water Enterprise includes the Raw Water Field Operations unit, the Water Management Strategy unit, and the Groundwater Management unit, all of which have primarily a water resources focus. Flood control functions and units are also divided between the two sides of the organization, as the figure on page 67 illustrates.

EFFECTIVE PRACTICES SUMMARY SCORECARD

The Effective Practices Summary Scorecard summarizes the findings of the Performance Evaluation for Water Resources Planning. The individual criteria sheets are provided following Opportunities for Improvement in a series of "Efficiency and Effectiveness" tables. These tables present the utility's rating compared with industry effective practices for each of the focus areas under review. Evaluation comments are presented to describe the corresponding practice within the District to support the ratings. For a summary of the scores, see the scorecard in the Water Quality write-up on page 4-44.

NOTED SUCCESSES

Our evaluation team noted several areas of District Water Resources Planning that were above industry standards. A brief discussion of these noted successes is presented below.

Water Resources

The District's annual water production is currently in the range of 350,000 to 400,000 acre-feet per year as shown in the table at the right.

	Water Demands (acre feet)		
Water Use Type	**Actual 1997**	**Estimated 1998**	**Projected 1999**
District Municipal & Industrial	273,800	242,300	266,600
District Agricultural	36,000	28,200	32,600
Non-District (import & local)	80,300	82,900	81,500
TOTAL WATER USE	390,100	353,400	380,700

Source: Water Utility Enterprise Report, Final, July 1999

To meet these demands, the District maintains six different sources of supply as listed in the adjacent box. Having six sources of supply, including both surface water and ground water, provides District customers with reliability. For example, in the event a drought causes the District to cut back its SBA and San Luis supplies, the District will likely be able to make up the shortfall from its ground water resources. Only in a severe, multi-year drought is the District likely to have to impose water use restrictions and, even then, these restrictions will likely be much less severe than those imposed by other Northern California water utilities.

SCVWD Six Sources of Supply

- State of California *100,000 acre feet per year entitlement*
- Federal Central Valley Project *152,500 acre feet per year entitlement*
- Ten (10) local surface water reservoirs *175,500 acre feet*
- Local ground water storage in the North Santa Clara County ground water basin *350,000 acre feet*
- Local ground water storage in the Llagas Creek Basin in South Santa Clara County *150,000 acre feet*
- Ground water stored under a contract with Semi Tropic District *126,000 acre feet*

Source of Supply	
Source of Supply	**Approximate Annual Average Yield (acre feet)**
State Water Project	74,000
Central Valley Project	125,000
Local Reservoirs	100,000
Local Ground Water (No. County)	200,000
Local Ground Water (So. County)	50,000
Semi Tropic Irrigation Storage	25,000

These sources have historically provided the District with an average annual yield of approximately 550,000 to 600,000 acre-feet. Given that annual demands are currently less than 400,000 acre-feet, the District's current supplies provide some room for growth in water demand within the District's service area. The estimated annual average yield of the sources of supply is shown in the table at the left.

Water Resources Planning (continued)

Work Environment, Communications and Teamwork

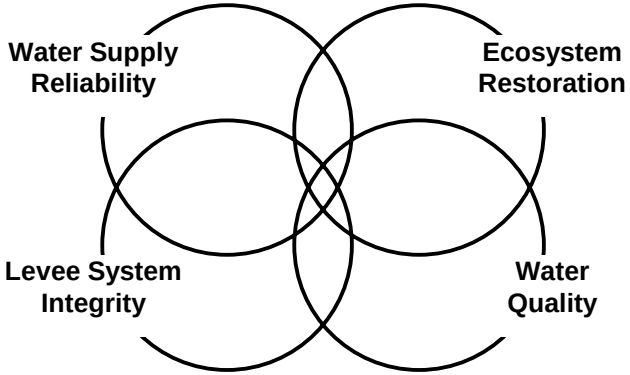
Similar to the successes noted for Water Quality, staff is highly skilled and motivated and the District provides a good work environment including training and on-the-spot awards.

Forward-looking Programs, Policies & Procedures

The District has a forward-looking focus with respect to state, nationwide and local issues. It has recognized the need to integrate its water resource planning efforts with environmental and water rights issues. The District recently developed its first Integrated Water Resources Plan that improved upon the 1975 Master Plan by providing contingencies and alternatives, statistical analyses, and monitoring provisions. The ground water and basin management programs have also demonstrated progress in increasing recharge and conservation, adding sources of water supply, and initiating recycled water programs.

Internal programs have implemented effective tools for improving productivity and understanding. For example, the UST Program installed a GIS (geographical information system) to consolidate digitized maps with well locations and site dates. The initial setup was completed in house for only $10,000. The District also developed its own high quality Internet site, relative to other private and public utilities, which provides useful information to the public such as river and stream level data during periods of heavy rainfall.

The CALFED Bay Delta Program



The CALFED Bay Delta Program is an effort involving state and federal agencies and California's environmental, urban and agricultural communities. The program originated in 1995 with the objective of addressing the environmental and water-management problems associated with the Bay Delta System. The mission of the CALFED program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay Delta System. In June 1999 the CALFED program produced a draft plan for resolving the above issues. CALFED's plan had a number of objectives:

- Provide good water quality for all beneficial uses
- Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay Delta
- Reduce the miss match between Bay Delta Water supplies and current and projected beneficial uses
- Reduce the risk to land use in associated economic activities water supply, infrastructure and the ecosystem from catastrophic breaching of Delta levees.

The CALFED Preferred Program Alternative

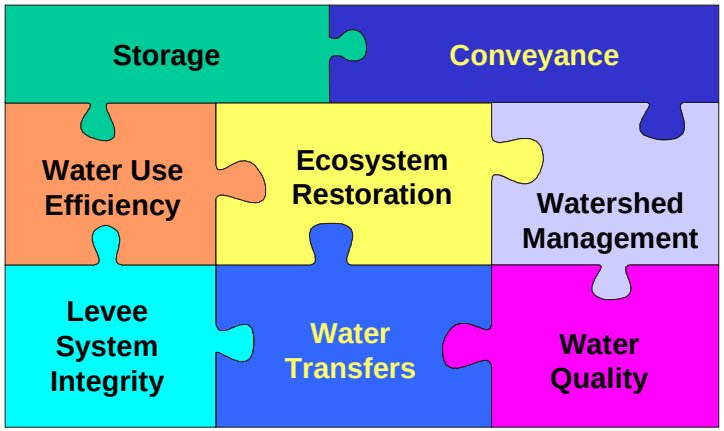
The CALFED Preferred Program Alternative is a 30-year plan to restore Bay-Delta ecosystem health, improve water supply reliability, improve water quality, and protect Delta levees. The program is very broad in nature and includes hundreds of actions that will be taken throughout the Bay-Delta watershed and beyond over several decades. Initially, the focus of implementation will be on Stage 1, the first seven years of implementation.

The CALFED Program Alternative is comprehensive in nature. Instead of attempting to solve any single problem in the Bay-Delta, CALFED has started with the recognition that many of the Bay-Delta's resource problems are interrelated, so the most successful solution will be one that addresses multiple problems. The CALFED Plan begins with strategies for solving each of the four Bay-Delta problem areas in an integrated manner as illustrated at right. These strategies are interwoven and each must be viewed in the context of the other strategies.

CALFED has identified eight program elements to carry out the strategies. Each program element includes many actions that will solve problems simultaneously in two or more problem areas. The eight program elements are illustrated in the diagram on the next page. Within each element, CALFED has defined, on a preliminary basis, actions to be taken during Stage 1 of implementation.

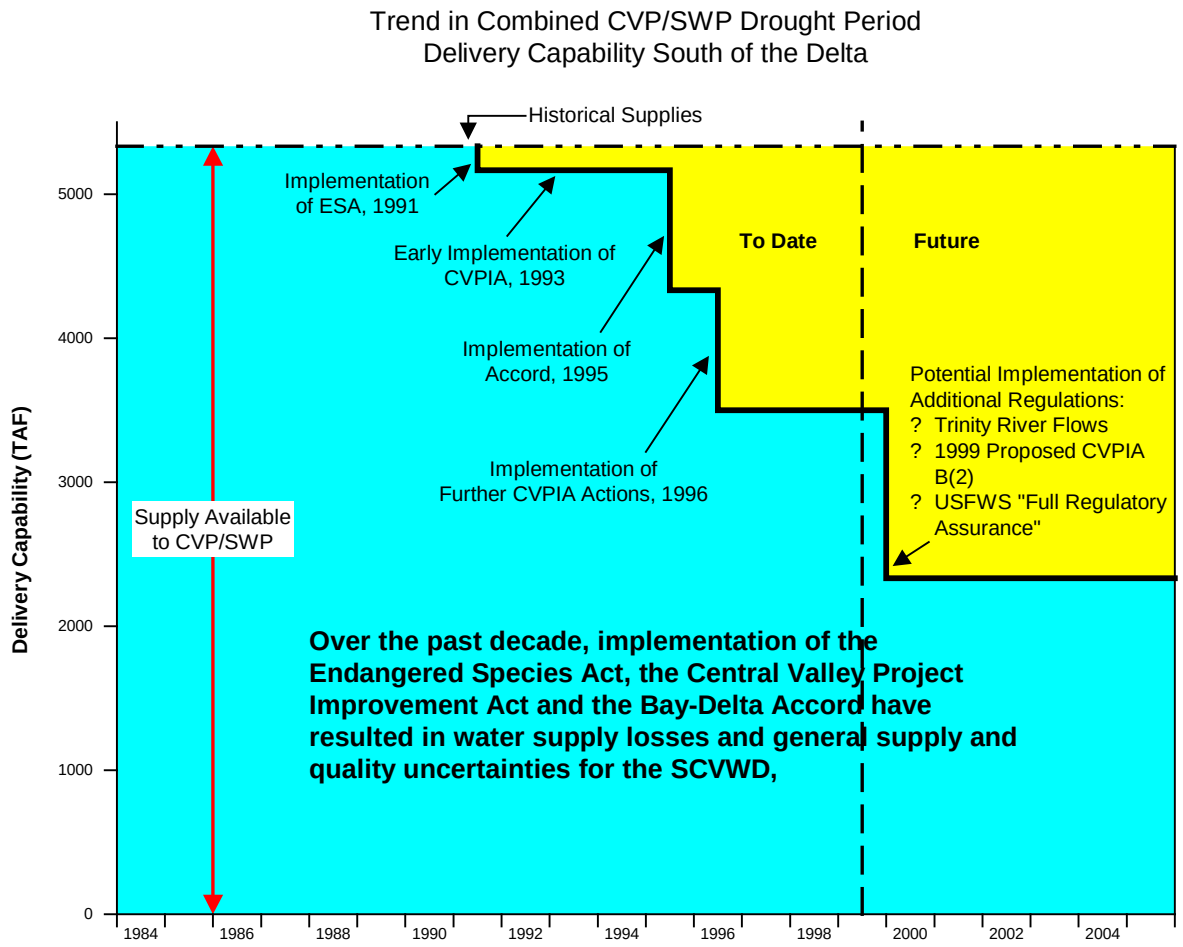
Involvement of the District in CALFED and Related Water Supply Activities

Bay Delta supplies constitute more than 50% of the District's available water supply in normal years and during drier years, Bay Delta supplies may make up as much as 90% of the District's water supply. It is clear that the Bay Delta process will have a very significant impact on Santa Clara Valley Water District and its customers. As a result, the District has become very active in promoting the water interests in Santa Clara County. Recently, District senior staff and select Board members held a 2-hour meeting with U.S. Secretary of the Interior Bruce Babbitt to discuss the specific concerns of Silicon Valley. Among other things, District staff stressed the critical need for urban water supply reliability to Secretary Babbitt. The District has also joined other large urban water suppliers such as Contra Costa Water District, Metropolitan Water District of Southern California to "make a case" for the needs of urban communities for reliable water supplies in a variety of forums.



The District's interest in commitment to working on the Bay Delta Water Supply issue is evidenced by its involvement in a number of CALFED and related committees and work groups. For example, District's Water Enterprise Assistant General Manager is currently President of the State Water Contractors Association. The Association is the group of public agencies that purchase water from the State Water Project. The Association seeks to represent the interests of a wide variety of state water contractors including both urban and rural water districts, and irrigation districts. Similarly, Santa Clara Water District is a member of the steering committee of the Bay Delta Urban Coalition, which represents virtually all of the major urban

water users of the Delta. Two District board members sit on the San Luis Delta Mendota Water Authority Board, which interacts with the federal Central Valley Project and the U.S. Bureau of Reclamation. Likewise, one District board member is a member of the Bay Delta Advisory Council, a group that consists of over 30 water leaders representing California stakeholder groups in the CALFED Bay Delta Program. Finally, a District staff member is currently Vice-President of the Central Valley Project Water Association.



Impact of the CALFED Program on the District

Earlier this year, the District staff provided the Board of Directors with a presentation entitled Silicon Valley's Water Supply and Water Quality Challenges. In this presentation, the staff laid out the critical needs of the District with regard to future water supplies. The District has concluded that its Bay-Delta Water Supply has become unreliable in recent years because of natural droughts and regulatory actions taken to protect the environment. Recently proposed federal actions to protect/enhance the Delta ecosystem have the potential to reduce the District's Delta Supply even further. The District has pursued a multi-faceted approach to water supply — recycling, conservation, water banking, water transfers, and water treatment plant improvements. To a large degree, these strategies depend on a reliable base supply from the Delta; unfortunately, the reliability of the Bay-Delta supply is being reduced as noted above and shown in the adjacent figure. In essence, the return on the District's investment in recycling, conservation, and the like is reduced by declining Bay Delta water supply reliability.

In conclusion, it is clear that the District understands the criticality of the water supply issues it faces. The District also understands the importance of a reliable water supply to the area it serves which has a gross regional product of $106 billion per year and generates more than $26 billion per year in U.S. exports. It is important that the District continue to focus highly qualified senior level resources on these water supply issues because they

will affect the District's water supply and its customers for years to come. Similarly, the District should continue to pool resources and jointly (with other urban water agencies with similar goals) pursue its interests within the CALFED process.

AREAS OF POTENTIAL IMPROVEMENT

Based upon our review of the Water Resources Planning function, our evaluation team noted the following for improvement:

A. Integrated Water Resources Plan
B. Groundwater Basin Management Plan

This area has been identified as having significant opportunities for cost-effective or efficiency improvements. A more detailed description is provided on the following pages for this potential opportunity.

A. Integrated Water Resources Plan (IWRP)

Issues

The District's Integrated Water Resource Plan (IWRP) is an integral tool in guiding the District's actions in the future as they relate to water supplies, storage and investments. The IWRP project team prepared a June 1996 implementation plan summarizing the elements of the District's original IWRP. The original plan is essentially a compilation of a number of programs to achieve a variety of objectives. This IWRP outlines planning objectives, a preferred strategy, an intermediate action program, and actions to meet contingencies.

The District is in the process of preparing a new Integrated Water Resources Plan. This new plan should eliminate the limitations of the existing plan in several areas: economics, water quality, environment, and financing or ratemaking. As the District moves forward with the new planning effort, the work should emphasize its commitment to the integration of these elements. To assure the most efficient investment of District resources and to achieve the greatest benefit for that investment, the District should follow a number of planning principles as outlined at the right. We believe that the District has a number of opportunities to improve the specificity and the usefulness of the IWRP, as discussed in the next section.

Planning Principles

Develop a range of future goals, including water demands, reliability indices, and policies that the District would like to accomplish.

Establish evaluation criteria, including economics, public acceptance of shortage (or reliability), and implementability, particularly with regard to water supply options beyond the control of the District.

Develop a set of alternatives and evaluate the costs, benefits, and impacts of each alternative.

Combine alternatives into likely groups for optimization.

Select the combination of alternatives, which best fit a blend of goals and criteria.

Opportunities for Improvement

Supply Integration — The most common criterion for comparison of water supplies is annual safe yield. However, reliability for the District is best measured by several factors including, long-term yield, available transportation and groundwater extraction capacity, and monthly and seasonal availability. In optimizing future water supply, each of these factors should be weighed considering relative cost, desired reliability and environmental objectives, to achieve the best result.

Economic Comparisons — Perhaps the greatest need in the future IWRP is to develop a sound economic basis for projecting costs and risks of shortage. It is difficult to select between options, such as groundwater storage, a long-term transfer, increased groundwater extraction capability, surface water storage, and more extensive conservation and reclamation measures, unless there is a basis for an objective economic comparison. Economics, of course, is not the only basis for shaping IWRP programs. The other bases need to include environmental protection and enhancement, resource conservation, and the subjective values associated with water shortage.

Groundwater — Obtaining optimal performance requires: 1) having water available for recharge (precipitation or imported water), 2) having adequate storage capacity, and 3) having adequate extraction capacity. Investment in standby pumping, usable storage for normal and wet year water, and assured availability of extraction sites are key plan elements. The relative value of local (e.g., Santa Clara County) versus remotely stored (Semi Tropic Water Bank) groundwater and the related levels of investment are key factors that should be carefully evaluated.

Acceptable Shortage — There is a wide range of opinions regarding the appropriate level of water supply reliability. Alameda County Flood Control and Water Conservation District (ACFCWCD) Zone 7 plans for 100 percent supply in all droughts, while East Bay Municipal Utility District plans for a 25 percent deficiency in a drought occurring every 20 years. The District's previous assumption of a 10 percent deficiency is reasonable, but the IWRP should analyze the costs of decreasing or increasing this percentage and the resulting community economic impact.

There is a perception by District customers that the South County (Llagas) Groundwater Basin is not thoroughly understood. Future development of the IWRP should consider the need for, and cost of, groundwater recharge operations.

Water Quality — Water quality is a significant factor in future water resources planning. The IWRP currently considers, in very general terms, the reports of various regulations and programs on ground and surface water quality. However, it does not contain specific strategies or tactics for determining the appropriate technology to achieve the District's water quality goals. Source water quality variations can affect the economics of production and customers acceptance. The IWRP should also address the relative values of various water qualities to customers. In other words, would most customers be prepared to pay a premium not just to meet State and federal standards but also to exceed those standards? If so, how much of a rate premium would be acceptable? The IWRP should address this issue.

Water Transfers — It has been recognized for at least a decade that long-term water transfers (or option for dry year transfers) may hold the key to assuring urban supply reliability. It is possible for certain existing water right holders to obtain significant income from a water sale during pre-specified drought conditions. However, this theory has only rarely been put into practice, primarily due to the rigidity of the current water rights

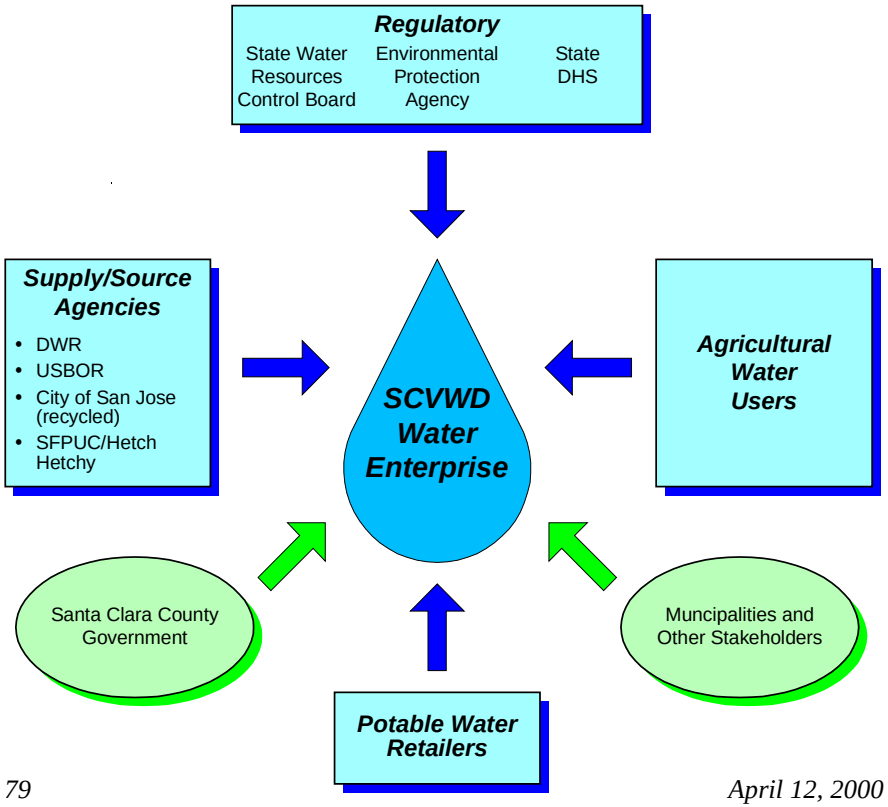
practices and administrative concerns of federal and State agencies. Over the years, this will change, but the amount of investment in such water supplies should be economically balanced with the potential damages due to the risk of shortage.

In response to a state of emergency declared by the Governor of California in 1991, the State Drought Water Bank created an opportunity to transfer water from agricultural users to State and federal water project contractors. In any serious statewide shortage, it is likely that a Governor would declare an emergency again. How much should the District rely on this possibility considering the associated decrease in necessary District investments for the purpose of reducing the impact of a shortage? Again, this option should be addressed in the IRWP.

The District has been successful in establishing an underground storage bank account, currently containing 126,000 acre-feet of water, in the Semi Tropic District groundwater basin. The present IWRP indicates a future need for 350,000-acre-feet of storage. The ability to use the stored water from Semi Tropic is uncertain in the long term, based on capacity limitations of the San Felipe and South Bay Aqueducts, as is the District's access to groundwater pumping in its local basin. The costs associated with both alternatives need to be objectively evaluated as part of the new IWRP in order to develop a sound strategy and recommendations. The 1996 IWRP Implementation Plan indicates the desire of the District to investigate other water banking programs. We encourage this approach as it may improve overall reliability, lower costs or both.

Stakeholder Involvement — Effective stakeholder involvement in IWRP development can improve consensus on the goals and alternatives under consideration. The District has implemented stakeholder involvement in prior water resources issues. In recent years comprehensive, balanced stakeholder involvement has been difficult to achieve in California. Typically, only the most vocal advocates' goals are addressed at the potential expense of larger but generally unorganized groups of citizens. Community and stakeholder agreement can be improved by using the general planning principles (outlined above) and including stakeholders in the process. For example, the District could invite retailers knowledgeable in water supply issues to participate on a planning team.

Inter-Agency Aspects — The District's Water Enterprise operates in a complex, tiered world involving a number of participants. The figure below demonstrates the District's complex interactions with the State, the county government in Santa Clara County, retail water providers (District customers), and regional water suppliers outside the County. The District also has stewardship regarding public resources, including watershed lands, steams and drainage channels, and flood control responsibilities. The ultimate beneficiaries of the work of all of these governmental agencies are



individual citizens and businesses of Santa Clara County. In implementing the IWRP and other District programs, the District should focus on clarifying the current needs and requirements of these agencies as well as following evolving future actions. The District must concurrently maintain citizen contact through surveys, meetings, and retail purveyor input to assure at all times that the District's program reflects the broad public interest. The current survey of customer opinion is a good example of the type of investment the District should make in understanding stakeholder concerns.

The IWRP process offers a significant opportunity to train new District staff so that they are well grounded in the problems the District will face, and so that they could, in the future, participate in implementing various elements of the IWRP. The organizational aspects of the IWRP are addressed in a subsequent section covering potential organizational improvements within the District. However, it is extremely important to obtain key staff understanding and buy-in to this Plan, so that it becomes a vehicle to obtain better internal understanding of the District's future programs.

Integration with Short-term Planning

The District also prepares a number of shorter-term plans that relate, directly or indirectly, to its water supply. These include the Biennial Operating Budget, the Annual Operating Plan, the Water Utility Business Plan and others. The revised IWRP should address its linkage to these documents. Explanation of the linkage will benefit both staff and stakeholders by improving the understanding of near-term operating plans with the longer-term strategy and vision of the District.

B. Groundwater Basin Management Plan

The District has identified the creation of a Groundwater Basin Management Plan as a key element of the IWRP. The goal of the District s initial Groundwater Basin Management Plan will be to enhance overall groundwater management practices in Santa Clara Valley. However, the District appears to have approached groundwater basin management as primarily an engineering task of placing water into the ground. We urge that groundwater basin management include a multi-disciplinary effort involving the coordinated analysis of the District s hydrogeologists, engineering geologist, hydrologists, civil engineers, chemists, microbiologists and others.

Best management practices of groundwater basin management require the recharging of the groundwater basins within the District s responsibility to be conducted to optimize the protection of the groundwater resources. Recharging aquifers can have multiple purposes and require different technical approaches depending on the issues within the different parts of the groundwater basins. These issues may include:

- preventing saltwater intrusion near the bay,
- preventing collapse of an aquifer because of land subsidence,
- preventing groundwater contamination caused by abandoned wells,
- potential flooding of neighboring property near recharge basins or well fields,
- potential biofouling or chemical reactions of recharge water with aquifer materials or aquifer waters resulting in clogging of the aquifer or injection wells, or

Water Resources Planning (continued)

- mitigating groundwater contamination caused by discharges from wastewater treatment plants, septic fields, industrial discharges, leaking underground storage tanks, and non-point source urban and agricultural runoff.

If done correctly, the Groundwater Basin Management Plan should guide the District s groundwater management practices by:

- optimizing the conjunctive use program;
- increasing the current knowledge of basin hydrology;
- refining aquifer parameters, subsidence thresholds, and other hydrological parameters;
- developing a groundwater model for South County; and
- recalibrating the models for North County.

The plan would also help focus and unify actions to meet the goals of protecting groundwater, at the same time as providing the highest quality and quantity of groundwater for use by the District.

Criteria for Water Resources Planning are included with the Water Quality Criteria beginning on Page 4-51.

Customer, Community and Government

BACKGROUND

Community and Government – Public Information Office

The Public Information Office (PIO) directs essentially all internal and external communication at the District, from producing the General Manager's Bulletin to distributing customer mailing inserts on water conservation. The PIO works closely with numerous groups throughout the District to frequently attending Business Meetings for Flood and the Water Enterprise as well as Board Meetings. The PIO also works closely with the grassroots Internet Website group to share information and enhance the quality and content of the WebSite. The primary components of the PIO are:

- Individual staff members dedicated to Water Quality, Water Supply and Flood technical issues,
- Media specialist(s) to handle all media related interactions and press releases,
- Instructional school program, and
- Support staff.

PIO personnel spend approximately 15% of their time on projects directly managed through the PIO including information and media campaigns. Most recently, the PIO developed a year round general outreach calendar of issues that are communicated to the public at the appropriate time of year.

- Flood – winter
- Streams and Watersheds – spring
- Conservation – summer
- Drinking Water Quality – fall

The balance of PIO personnel resources (85%) are budgeted for work on project teams outside the PIO. PIO personnel also work directly with the AGMs for Water, Flood and Administration. Given that the PIO reports to the AGM of Administration, this can result in prioritization and scheduling difficulties when conflicts arise regarding completion of public information tasks on projects being managed by different parts of the District organization.

Community and Government – Government Affairs

Over the past several years, the District's Government Affairs function has expanded and refocused to meet the needs of the District at local, state and federal levels. As the largest water agency in Northern California depending primarily on a contracted supply, the District is aware of the importance of federal and state relations, and their potential impact on District operations. The government affairs functions are implemented through a formal Government Affairs unit and informally through staff outreach and participation in state and federal water supply activities. Where possible, the District also collaborates with other water agencies to strengthen their position through a unified front.

In general, the goal of the Government Affairs function is to avoid adverse policy that may negatively impact District operations. To accomplish this, Legislative Representatives, knowledgeable in local, state and federal interests, work with business groups, community stakeholders and other

strategic groups to develop and review new policies and regulations. Historically, the District addressed only Federal issues on a case-by-case basis using various consultants with a primary focus on flood issues. There was some state-level government affair function, but there was little interaction between the state and federal government affair functions.

Since the early 1990s, the Government Affairs function has been expanded and reorganized. Over the past 5 years, the District's participation in statewide issues such as CALFED Bay Delta process has increased markedly. A local government function was added and all local, state, and federal activities were combined into one unit reporting to the General Manager. This proximity to the General Manager has allowed the Legislative Representatives to respond quickly to regulatory issues and policies or to questions raised by officials. For maximum impact, the local, state and federal functions are still based geographically in the centers of governmental activity: Santa Clara County, Sacramento and Washington, D.C., respectively.

Select District Participation at the State Level

- District Board members active on Bay Delta Advisory Committee
- Participation at California legislative hearings
- District staff participation on CALFED committees

The Local Government Representative position, added in 1997, is viewed as a strategic, focused effort to improve local relationships with individuals and groups. At the local level, this Representative responds to questions and issues raised by elected officials and coordinates meetings on key topics with key players such as managers of the retailers and the County Board of Supervisors. The Local Government Representative functions largely in a reactive manner, addressing issues on a case-by-case basis.

Select District Participation at the Federal Level

- Strong relations and meetings with Secretary of Interior and his staff
- Working with other CVP contractors on project finance and policies
- Participation in Washington oversight meetings

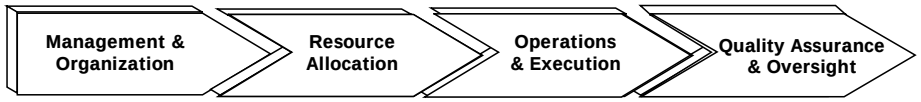
In addition to the formalized Government Affair unit, key District personnel from other organization units are highly involved in various water supply related issues. These efforts are strongly supported by the District to ensure a reliable long-term supply from both the federal and state projects. The current focus of these efforts is to elevate the reliability and quality of urban water supplies.

Customer, Community and Government (continued)

Effective Practices Summary Scorecard

The graphic at the right summarizes the findings of the Performance Evaluation for Customer, Community and Government. The individual criteria sheets are provided following Opportunities for Improvement in a series of "Efficiency and Effectiveness" tables. These tables present the utility's rating compared with industry effective practices for each of the focus areas under review. Evaluation comments are presented to describe the corresponding practice within the District to support the ratings.

Effective Practices Analyses



Qualitative Competitiveness Scorecard

Qualitative Areas of Review	*Score* 1 2 3 4 5	*Grade*
A. Community & Government – Government Affairs		3.3
B. Community & Government – Public Information Office		2.9
C. Customer/Stakeholder Service and Interaction		3.3

1 - Significant room for improvement, 3 - Typical utility performance, 5 - Demonstrated best practice

SUCCESSES

The emphasis on information and communication of District activities has improved the public's general awareness of the District in the local community. The District currently has the highest favorable rating of any public agency in the County. As a wholesaler, however, the District still struggles with limited visibility since it does not directly interact with the ultimate customers.

The PIO performs several different functions and is effectively used for internal communication, and project information dissemination as well as community outreach. Successful external information and public outreach efforts include the Internet WebSite, year-round information activities and the school program. Public surveys have demonstrated that these efforts have successfully raised public awareness and appreciation of the District.

The District has taken on a more active role, both formally and informally, in federal and state government affairs and legislation, especially over the past five years. In general, the District is recognized as proactive contributor to CALFED and other processes on behalf of itself and other urban water purveyors. The AGMs currently serve as the recognized District leads on important water supply and flood issues requiring specific technical expertise. This frees the CEO/GM to focus on local, primarily on "in county" issues.

To improve productivity, Government Affairs streamlined the legislative/policy review process using a WebPage and email to promote communication among the District staff involved. This process ensures appropriate participation in review of specific topics and has reduced review periods from 2-3 weeks to a few days.

The District has also benefited from the three-tiered (local, state and federal) system of Government Affairs that continuously builds relationships with legislators as they move on to the next level. The recent reorganization of Government Affairs reinforces this continuum since local, state and federal representatives work more closely together as a single unit and report to the CEO/GM through the Government Affairs Manager.

AREAS OF POTENTIAL IMPROVEMENT

Based upon our review of the Customer, Community and Government activities of the District, our evaluation team concluded that the District could benefit from some realignment of its communications functions, as discussed below

Alignment of Communications Functions

Issues

Government affairs and public information are essential functions that link the District to 1) the community that it serves and 2) the regulatory bodies that oversee District operations. Likewise, internal communication is key to the long-term efficiency and effectiveness of the District. The PIO and Government Affairs functions currently meet their defined objectives and each unit appears to have the appropriate labor and budgetary resources to accomplish their activities. However, the benchmarking analysis presented in Section 3 indicates that 1.3% of the District's total expenditures are spent on public information and involvement, whereas comparable utilities spend an average of 0.6%. Some utilities spend as little as 0.2% of their budgets on public information. Likewise, government affairs and lobbying expenditures account for 0.4% of the District's expenditures while comparable utilities expend 0.2% of their budgets on similar functions. While some of these differences may be due to the District's dependence on imported water supplies and the active role the District has recently taken in the CALFED area, there is likely room for efficiency and effectiveness improvements with the government affairs and public information functions. Although the public information and government affairs functions appear to interact well utilizing each other as a resource, there are remaining advantages to be realized.

Based on our interviews, it appears that the PIO and Government Affairs units interact well and coordinate their efforts. However, our interviews also showed that conflicts in priorities do arise. For example, certain PIO staff are often "pulled in two directions" by project-specific needs of Water Enterprise projects and the ongoing internal communication needs of the overall District. Our interviews indicated that it is not uncommon for PIO staff to be assigned to an external communication issue such as water quality or flood management, but also to be responsible for an internal communication project. While staff usually manages to complete these multiple assignments, efficiency could be improved if prioritization issues could be reduced or eliminated.

Customer, Community and Government (continued)

The PIO's Information Representatives do not interact with the District's customers directly. It is our understanding that all communications with the water retailers are handled at "higher levels" (e.g., Executive Project Manager) within the District. While this level of management oversight and involvement in communication with District customers is commendable, at times it inhibits efficiency. Because all communications are handled at a higher level, Information Representatives must channel all communication through the corresponding retailer contact. This restricts active and open discussions of collaborative outreach efforts that the District may want to participate in.

Opportunities for Improvement

We believe the efficiency and effectiveness and the District Government Affairs and Public Information units can be improved by realigning the units and clarifying their respective missions. We recommend that the District realign its communications functions into 1) an external communications unit, and 2) an internal communications unit. The external communications unit would focus on all District activities that involve outside parties, whether they be lobbying efforts directed at State regulators or a project information program aimed at residents who live near a District construction site. Similarly, the internal communications unit would focus on providing the Board, management, and employees with the information each needs to efficiently perform its mission within the District. A preliminary delineation of the external and internal communication responsibilities is provided in the table below:

Internal Communications	External Communications
Regular Employee Communications	Lobbying and Government Affairs
• Aquafacts • General Manager's report • Performance metrics • Other	• Federal • State • Local government
Information from Management	Customer Information and Relations
• "All Hands" meetings • Other employee meetings • Regular reports to Board • Responses to Board requests	• Retailers • Others

Customer, Community and Government (continued)

Information from District Board

- Governance policies

Stakeholders/public Information Programs

- Water conservation
- Water recycling
- Water quality
- Water supply
- Watershed management
- Stream/habitat management
- Flood management
- Project-specific

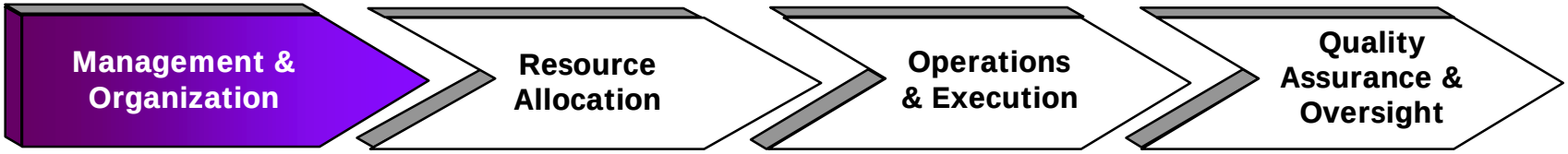
As part of this realignment of communication responsibilities, we recommend that the District assess the value of each of its major public affairs and communications programs. In conducting this assessment, the District should consider questions such as:

- How does this communication activity support the District's mission?
- Who benefits, and what value is derived from this communication activity?
- Is this communication activity complimentary to the activities of others (e.g., the retailers, water industry groups, educational institutions)?
- Is this communication activity duplicative of the activities of others?
- Is the cost of this communication activity reasonable given the benefits derived?

The benefits of realigning the District's communication functions include:

- Clarification of the mission of the District's internal and external communication functions;
- Improvement in the consistency of external communication to public, other government entities, customers, etc.;
- Improved internal communication focus on information needed to improve effectiveness and efficiency of District Board, management, and employees; and
- Reduction in prioritization problems.

Effective Practices Analyses-Customer, Community and Government



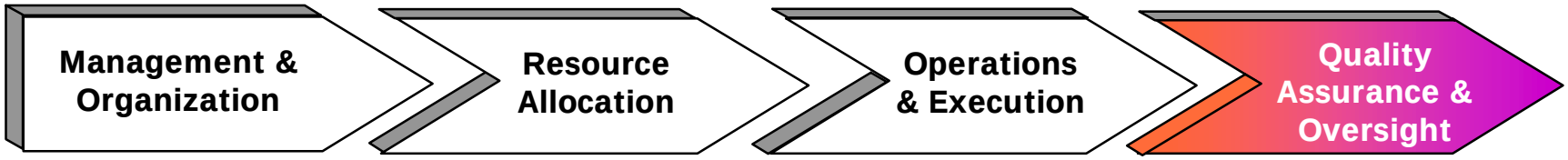
A. Community & Government - Government Affairs

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Well-defined strategy prioritizing government and legislative issues related to District operations.			X			Focus on developing good relationships at all levels. Reactionary on a local level.
2. Programs adequately track federal, state and local policies and regulations that both directly and indirectly affect water supplies and operations.			X			Appropriate goals of government programs and sufficient budget. Combined local, state and federal functions to improve communication.
3. Proactively takes on a leadership role in statewide water legislation and regulations.			X			Limited leadership roles.
4. Participates and provides contributions to water legislation and regulations on a state or nationwide level.				X		Increased level of participation in state and national issues and organizations over the past 5 years.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.3

Effective Practices Analyses-Customer, Community and Government

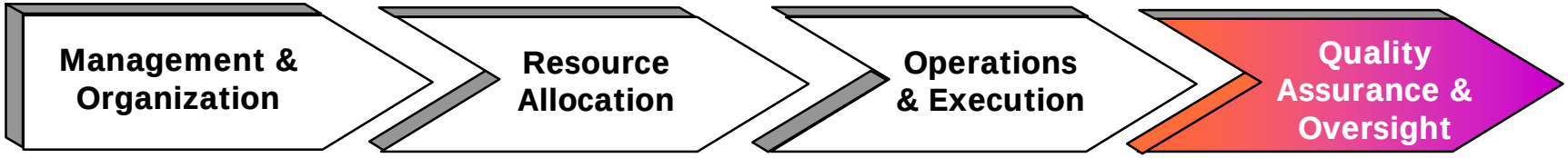


B. Community & Government - Public Information Office

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Well defined community and staff outreach objectives.			X			Defined outreach information programs throughout the year. Need better communication from management to employees and public on prioritized policy and decisions.
2. Community programs provide public with adequate and timely information that improves the Utility's public visibility.				X		District has highest favorable rating of any public agency in County with higher recognition of District.
3. Clear strategy in water supply that results in transparent customer service through clear delivery processes to serve the customer.			X			Significant time spent on individual projects sometimes conflicts with defined PIO goals and priorities.
4. Excellent working relationships with retailer agencies and stakeholders on local issues.		X				Case-by-case involvement by PIO, that does not have direct relationship with retailers. Difficult to obtain cooperation from private utilities. Some success with bill stuffers
5. District is continually vigilant of community issues and concerns.				X		Good coverage of local issues. PIO staff no longer attend all meetings related to District Water and Flood issues.
6. District programs provide public with good understanding of water source and role of various agencies.			X			Informative District website. Easy to obtain information from various departments.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.9



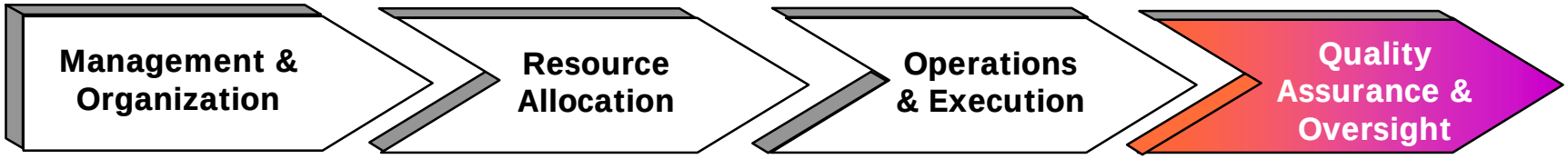
B. Community & Government - Public Information Office (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
7. District provides continual or routine communication to public of projected District activities and projects, water quality, as well as contact information for agencies or departments responsible for treatment and delivery.			X			PIO staff work on project teams as needed.
8. Coordination between Public Information and Local Government functions.	X					Limited coordination and interaction.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.9

Effective Practices Analyses-Customer, Community and Government

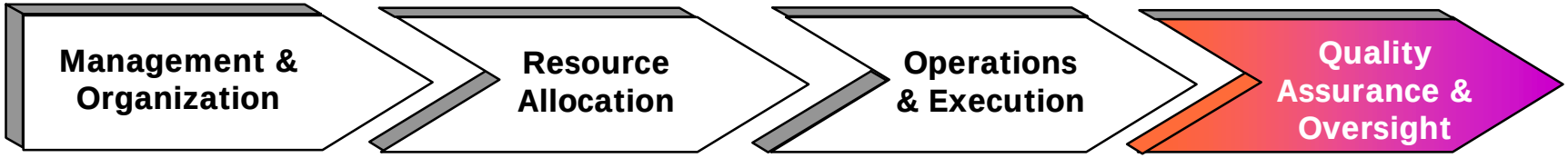


C. SCVWD Customer/Stakeholder Service & Interaction

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Utilizes periodic Customer Satisfaction and Feedback Surveys.		X				Past customer satisfaction surveys. No yearly program.
2. Utilize frequent mailings and outreach programs to keep stakeholders / customers informed.			X			Recently formalized approach to stakeholders (e.g., County, local cities). LUST program uses workshops and outreaches to regulatory agencies, "customers" and public. Good relationship with retailers. Water quality person serves as communication liaison.
3. Routinely works with outside stakeholder or customer groups.			X			District teamed with outside agencies to address imported water needs. Involved at local, state and Federal levels.
4. "Customer Service" unit is adequately staffed and trained.			X			Highly skilled/expert staff are available as resource to internal staff and to provide customer services.
5. Division communicates with customer and "closes the loop" when responding to complaints/issues.			X			Staff diligent about responding to customers / stakeholders. Well services works with customers to achieve compliance. Quick turnaround on permits. Sometimes slow to communicate with retailers on compliance issues.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.9



C. SCVWD Customer/Stakeholder Service & Interaction (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
6. Staff understands the goals and objectives of the utility and their respective functions and actively communicates these to customers.		X				Significant number of staff unclear as to exactly what their supervisor expects of them and how these expectations relate to District goals.
7. Performance measures are routinely tracked.		X				Some measures are tracked. Limited understanding of associated cost of services.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.9

Business Management and Planning

BACKGROUND

Business Management and Planning

The Water Utility recently revitalized their focus on Business Management and Planning by formalizing a long-term Business Plan. The Business Plan is originally based on the Board's strategic objectives. To achieve these primary goals, prioritized strategic sub-goals were identified for the key functional areas related to key issues that must be aggressively or systematically addressed. Utility personnel are currently drafting a revised Business Plan that will incorporate the new Governance Policies of the Board. Under the new Governance Policies, Ends and Limitations Policies will provide the Board and utility management with guidelines for carrying out the District mission. The revised plan will incorporate the role of these Ends and Limitations Policies.

Where trade-offs must be evaluated, the Business Plan provides guidance based on predetermined priorities. For example, in the primary water supply goal of ensuring healthy, potable drinking water, there is also the need to maintain affordability of the water supply. Similarly, the goal of promoting the development and use of recycled water requires establishing and supporting performance standards and accountability for meeting standards.

A key goal of the Utility as outlined in the Business Plan is to strengthen public information, outreach and community-relations activities by including customers, stakeholders, and constituents in the planning and review process. To this end, the District strives to establish partnerships with community players. For example, the problem of overdraft of the groundwater basin has been addressed by the strategy of "conjunctive use" of surface water and groundwater. Conjunctive use consists of capturing surface water during the seasons of the year when rainfall is abundant, and during years when rainfall is average and above, and recharging the groundwater basin with the locally captured runoff. This process is changing as conditions in California and Santa Clara County changes, requiring periodic reassessment, which in turn, requires the cooperation of local water users. Another example of partnering is the District's planning participation and subsidy of conservation measures in the retail cities that is part of the goal of reducing water use by 30,000-acre feet by 2020.

Information Systems and Technology Assessment

The Santa Clara Valley Water District has an extensive array of information systems (IS) and technologies (IT) that are critical to the District's operational effectiveness and efficiency. These systems include:

- Customer billing programs
- Maximo maintenance management system used for production work orders and preventive maintenance tracking
- Financial management system

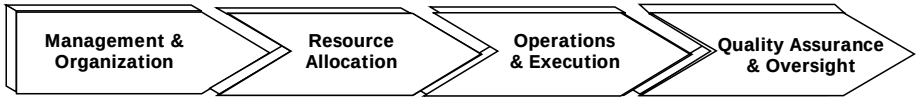
- Intellution instrumentation and control systems used to monitor and control facilities throughout the District

Organizationally, IT staff is divided into two functional units: the Information Systems Unit, responsible for the major business applications and other District-wide software systems, and the Information Technology Unit, responsible for the networks, hardware, and client/server support.

EFFECTIVE PRACTICES SUMMARY SCORECARD

The graphic at the right summarizes the findings of the Performance Evaluation for Business Management and Planning including the Information Technology function. The individual criteria sheets are provided following Opportunities for Improvement in a series of "Efficiency and Effectiveness" tables. These tables present the utility's rating compared with industry effective practices for each of the focus areas under review. Evaluation comments are presented to describe the corresponding practice within the District to support the ratings.

Effective Practices Analyses



Qualitative Competitiveness Scorecard

Qualitative Areas of Review	*Score* 1 2 3 4 5	*Grade*
A. Business Management and Finance		2.9
B. Information Technology		3.3

1 - Significant room for improvement, 3 - Typical utility performance, 5 - Demonstrated best practice

SUCCESSES

Business Management and Planning

The District uses a fairly comprehensive business planning and management system that is in the process of being improved through the Board of Directors current efforts to define its governance policies. During the course of our review of the business and finance aspects of the district, we noted several successes:

Integrated Planning — The Water Utility produces a series of documents that outline both its long-term plans as well as its near term plans. These documents include a Water Utility 10-year financial plan, a business plan with 5-year focus, and a 2-year operating budget. Our review of these documents indicated that they are comprehensive, well thought out, and effectively presented. While there may be certain aspects of these documents which could be further integrated, the documents should be considered strengths of the Water Utility and efforts to improve them further should continue.

Customer Relations — The Water Utility does an excellent job of dealing with its customers. The Water Utility has appointed a committee comprised of key customers and staff people to ensure that communications between the Water Utility and its customers are effective and timely. In addition, the committee holds quarterly meetings for representatives of its customers to discuss the most vital issues. We have observed one committee meeting and noted that the discussions were very open yet professional and that the issues under consideration were important.

Financial Condition — A more detailed analysis of the Water Utility's financial condition has been conducted as part of Phase IV, Financial Review. However, in conducting the business management portion of Phase III, we noted that the Water Utility has remained in excellent financial condition for many years. In part, we believe this is due to effective long term planning and foresight regarding future needs of the Water Utility. The Water Utility is to be commended on the financial viability of the organization over a considerable period of time.

Information Systems and Technology Assessment

Overall, the District has a fairly well functioning set of IT systems and staff. Despite the challenges of a locale that ranks as one of the most "high-tech" in the world, the District has managed to hire and retain IT staff that are highly qualified and very motivated. Unit managers have also done a good job of filling temporary openings in key positions with contract or temporary employees.

The District's integrated web development efforts and the extensive use of GIS demonstrated the effective use of information technology. For the most part, the instrumentation and control systems use state-of-art technology and have been effectively implemented and supported. In addition, the District has implemented several programs including:

- Maintaining PC upgrade cycle of 3 years,
- Completing network modifications annually,
- Implementing Office 2000,
- Consolidating more servers
- Standardizing software purchases

AREAS OF POTENTIAL IMPROVEMENT

Based upon our review of the Business Management and Planning, our evaluation team noted the following for improvement:

A. Business Management and Planning: Providing for Continual Improvement of Business Tools
B. Information Systems and Technology

Each of these areas has been identified as having significant opportunities for cost-effectiveness or efficiency improvements. A more detailed description is provided on the following pages for each of these potential opportunities.

A. Business Management and Planning: Providing for Continual Improvement of Business Tools

Issues

The District has implemented a new approach to business and financial planning over the last few years. The essence of the new direction is the Board establishment of formal missions for the water utility and flood management, with various strategic goals and objectives that provide direction and accountability to senior management. The strategic directives are translated into broad tasks through a Utility Business Plan and a 10-Year Financial Plan, and into specific tasks through the process of preparing annually a two-year budget.

This process has been fully in place for only one year at this time and is still developing. This process appears to provide a good system of translating high level goals and objectives to successive tiers of management is believed to be excellent. Although the overall system works well, additional tools should be implemented for fine-tuning the system to gain maximum benefits. Also, the Board's adoption of new governance policies in 1999 will impact the goals and objectives for the District as a whole and the Water Enterprise specifically. A series of management interpretations of the Board's Ends Policies will likely establish quantitative and qualitative operating goals for the Water Enterprise.

The financial planning and budgeting process is complex. It requires inputs from many sources to accurately quantify revenues from various sources and both operating and project costs. The process includes more than 100 line items of costs applied to about 1,000 projects (activities) assigned to 20 to 30 budget units (each with a budget coordinator). The budget units are combined with related functions/units into six cost centers each overseen by a Decision Unit Coordinator (DUC). The DUCs evaluate and prioritize the budget requests for the various projects and the cost center budgets are ultimately rolled up into the District's annual budget document. Accurate and timely communication among all players is essential to effectively meet the financial planning objectives.

A great deal of time is spent reaching consensus on a multitude of issues and programs. A structured system of prioritization, developed by Applied Decision Analysis (ADA), is used to integrate Board priorities into the decision process of where and when to spend money. As a result of the prioritization, people are assigned to the Water Enterprise's higher priority projects for the period of time necessary to complete the projects. Lower priority projects are shelved or put on a slower path to completion. This budgeting process affects the cost and the time frame of projects as well as the lives of employees and customers, the environment, and the quality of project outcomes. Accurate and timely information is essential to make sound, informed decisions.

The intent of the revised management planning function is to superimpose the Board's vision and strategic goals on the every-day activities of the entire District staff. This requires a knowledgeable and proactive management team moving in unison with clearly articulated goals.

Opportunities for Improvement

Management and planning at the District must be flexible to meet the changes that will stem from additional government regulation on quality, increasing competition for water supplies, and rapid growth in water demands. Management will require timely and accurate information from various management systems to ensure effective execution and overall accountability for the District's performance.

Source of Funds for Capital

The current forecast of water revenue is done in concert with the Integrated Water Resources Plan (IWRP), using historical water demand adjustments for changes in current water use. The result has been that revenues exceed operational needs, and the excess is placed in a fund to pay for future capital spending.

A policy should be defined by staff to determine which capital programs should be funded from revenues and which from debt. As a result, the amount of revenue required for operations is clearly defined and customer equity is improved by:

- ensuring the rates are not excessive; and by
- distributing the cost of new facilities over the life of the facilities so that the users of the facilities are paying for them.

Sound revenue planning and management requires adequate operating reserves to offset the potential variations in revenue related to weather and other events.

Accurate Forecasting

As with revenues, expenditures should be tightly tied to approved programs with realistic expectations for staffing and implementation. In recent years, there have been serious difficulties in hiring and allocating personnel to complete tasks that are included in the budget. When the budget is under-spent, the revenues in excess of spending are placed in reserve funds to pay for future capital. If the budgeted expenditures are always in excess of actual expenditures, there is little pressure on those staff who forecast expenditures.

Accountability

Implementation of the opportunities identified for tighter revenue and spending control and for a source of funds policy would provide a good first step in the direction of improved accountability; there would be no slush fund to offset bad forecasts of either revenue or expenditures. In addition, the reporting of spending versus budgeting estimates on certain key projects and versus prior years on ongoing activities should have some teeth put into it. Not all projects need to be tightly controlled, but those that require managerial decisions regarding Go/No-Go or prioritization should have a precision of inputs that allows accurate decision-making.

Auditing

The District has recognized the need for an auditing process in the newly developed (July 1999) Office of Planning & Policy Coordination, which addresses performance monitoring, policy development, strategic planning, and selected internal auditing (General Counsel's Office, Health and Safety). A Focused Management Review group has also been use to address selected activities, such as Purchasing and Materials Management.

We recommend that an internal auditing function be formalized to conduct selected audits, coordinate the existing efforts identified above, and coordinate systems audit work with outside systems specialists (possible under the Information Resource Management Program). The District does not currently have an internal auditor or an internal auditing function. The modern role of internal auditing is to evaluate systems and monitor compliance. Auditing systems for efficiency and effectiveness can require a high degree of technical expertise. This type of auditing could be an extension of the external audit activity. Once these auditing tools have been designed and the appropriate controls implemented they should be periodically evaluated for compliance.

B. Information Systems and Technology

Issues

The District has recognized the need for more complete, timely, and flexible information availability and reporting. As a result, the District has been "in the process" of developing a strategic plan for IT since the first of a 3-phase project was started in May of 1998. Only recently, the District completed the first Information Resource Management Phase. The Phase I report (by Westin Engineering) for an Information Systems Master Plan was completed in mid-1999.

District IT functions have demonstrated several successes, as noted above, including high staff skill level as well as effective use of IT information management tools such as GIS and internet web development. Although the District actively supports implementation of IT tools, long-term planning and vision appear to have been limited. As a result, various business, billing and process IT components are not well integrated. The following areas in the District's Information Systems and Technologies were identified as potential opportunities for improvement.

Opportunities for Improvement

IT Master Plan

The development of a strategic plan with defined objectives is crucial to the continued success of information systems for the District. This report provides a high-level assessment of the current state of information resources within the District and recommendations for actions that need to be taken to address the findings of the assessment. The assessment finds that the District's systems are basically "islands of automation" which can be efficient in their own sphere. However, various systems do not communicate well nor do they share information efficiently. The assessment recommends a Phase II effort to define an Information Resource Management (IRM) Program that addresses District business processes such that application and technical architectures can be identified that meet the District's needs.

Business Management and Planning (continued)

The long time frame of this project is unreasonable given its importance and an emphasis should be placed on developing and implementing this plan as quickly as is practical and possible. This effort should be pursued with a high priority. This will require direct, visible support from upper management. It will take five years, perhaps longer, to fully implement a top-flight Information Resource Management System. The longer the delay the longer it will take to fine-tune the many improvements that are possible in business planning and cost control.

Leadership

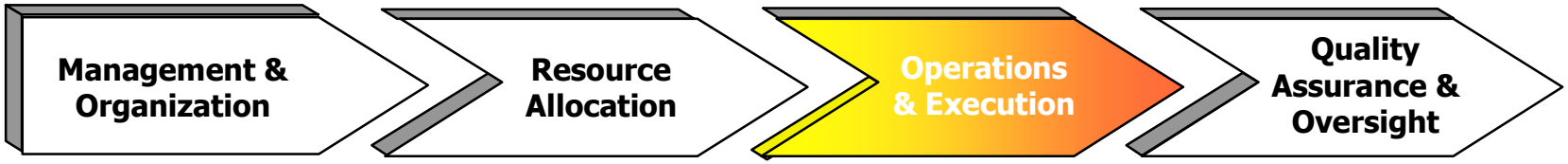
Coordination, planning, and integration have been difficult with the current two-unit organization of IT and IS in the District. In order to elevate the visibility of IT, better coordinate the functioning of these Units, and assist in accelerating the master planning process, an information management position should be created as a single point of direction. This unified leadership role would have ultimate responsibility for:

- Long-term vision
- Disrtict-wide coordination
- Master Plan implementation oversight
- Capital and labor resource identification

System Integration

The District has a host of applications and systems that are not fully implemented and/or poorly integrated. Contrary to their ultimate purpose, these disparate systems or “information islands” can contribute to greater inefficiencies in the organization. One example is the Maximo CMMS, which in some cases, has not been effectively implemented, is not producing appropriate performance measures, and may be causing additional wasteful paperwork. Other potential areas for integration improvements include the financial, customer billing, and facility operation and control systems.

Effective Practices Analyses - Business Management and Planning

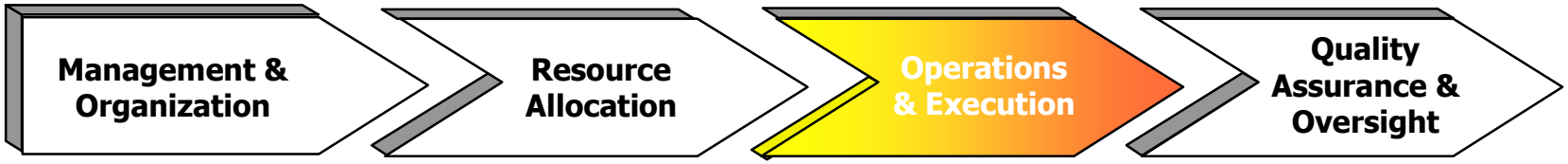


A. Business Management and Finance

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
1. Utility maintains well-understood system of governance and has established Board policies, which define and allocate responsibilities for achieving goals to the Chief Executive officer and other members of senior management.				X		Board has recently adopted Ends Policies, Governance Policies, and Executive Limitations which provide general guidance for the management of the District.
2. The allocation of responsibilities is supported by a continuous improvement program that reflects the utility's mission statement and priorities.			X			Board policies, mission statement, strategic goals and sub-goals are well presented in the various District's documents. However, no formal continuous improvement program exists to our knowledge. Monitoring of performance and improvement by responsible budget units can be improved.
3. Utility's mission statement, goals and objectives are clearly communicated to utility managers, staff, customers, and other stakeholders.				X		Business Plan and Budget clearly identify the utility's mission and contain good presentation of strategic goals and objectives. 10-Year Financial Plan presents a model of the revenues and expenditures required to meet the specific projects identified to meet the Board's specific goals. However, staff interpretations of Board policies providing specific measurable objectives are not yet in place.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.9**

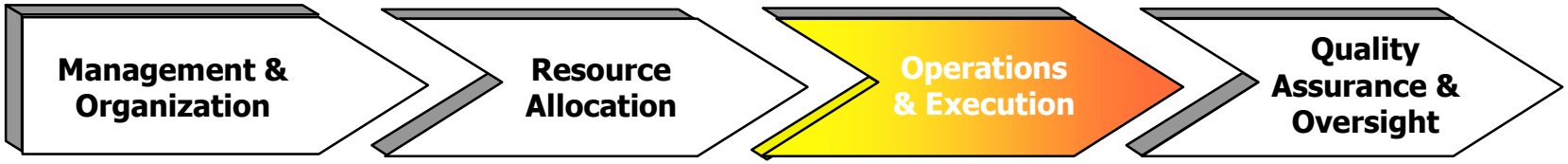


A. Business Management and Finance (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
4. The utility maintains a comprehensive yet workable set of performance measures, which are used to understand performance and pursue improvements.	X					Comprehensive set of performance measures does not exist. Some units have independently developed performance metrics but this is the exception rather than the rule. Comparison with other utilities is difficult in part because the District's data is so difficult to extract. Performance metrics should be established, monitored and reported.
5. Utility maintains a well integrated business planning system incorporating long term planning (>5 years), intermediate term planning (3 to 5 years), and near term budgeting (1-2 years).			X			Utility has all the elements of a sound planning system (see #3 above). New budget prioritization system used for 1st time last year. System is beneficial but should be further refined / improved.
6. Planning work and documents address key issues of water demand, other customer needs, service levels, and cost of service/rates.			X			Customer needs and service levels are consistently met. Water demand forecasts and water rates/ revenues are not fully integrated and monitored to assure revenue forecast accuracy and rate equity. Monitoring of retailer's compliance with conservation Best Management Practices is limited.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.9



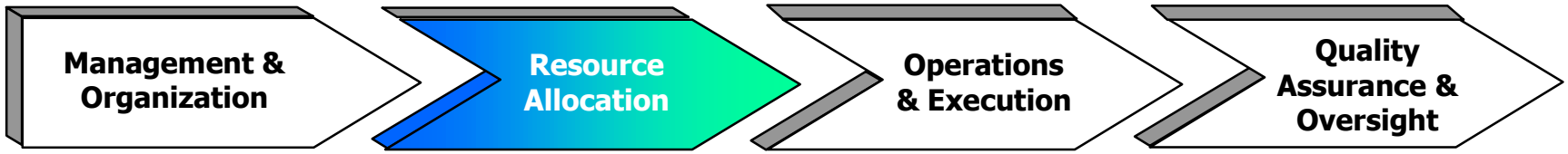
A. Business Management and Finance (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
7. Utility budgets address both operating and capital requirements.			X			Budget addresses negotiated priorities for both operating and capital. More formal policy to guide funding of (revenue, reserves or debt) of capital programs should be developed.
8. Utility maintains a clear outsourcing policy; projects as well as line and support functions are provided in the most efficient manner possible given the risks involved.		X				District generally uses consultants/outsourcing frequently but has no formal outsourcing guidelines or policies. Integrated procurement approaches (e.g. design-build) and outsourcing (e.g. contract maintenance) can produce significant savings. District should develop procurement policies.
9. Staffing levels are determined based upon planning documents and policies governing use of consultants/outsourcing.			X			The total authorized staffing is nearly fixed in the short run. Consensus Prioritization of projects decided by consensus determines allocation of key existing and new employees. Cumbersome recruiting process hinders the optimum use of existing staff and attainment of some key budget/planning goals.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: **2.9**

Effective Practices Analyses - Business Management and Planning

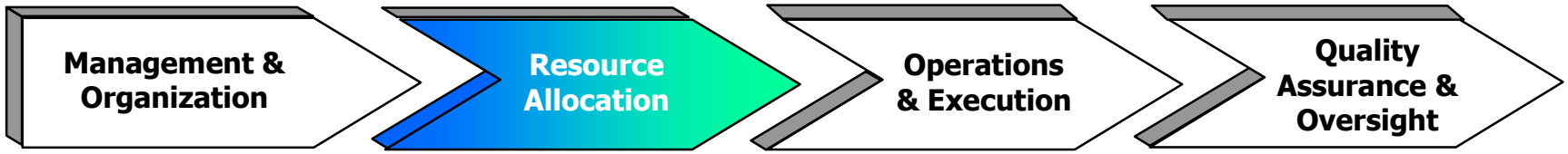


B. Information Systems and Technology

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	*Comments Regarding SCVWD's Performance*
1. Strategic plan for information systems is in place, consistently followed, and updated on a regular basis.	X					No current strategic plan. IT assessment recently completed but master plan is urgently needed. Plan development is taking a long time.
2. Extensive network-based information technology systems that are integrated and work well together.			X			Extensive networked systems. Not many are well integrated or communicate effectively.
3. Information technology systems use current hardware and software.				X		For the most part, current hardware and software are in use. Client email program should be updated to latest version.
4. Maximized system stability, reliability, and redundancy.			X			Systems are in place for backup and failure correction. Most IT infrastructure is reliable but lack of planning has caused some difficulties (e.g. poor network performance between WTPs).
5. Adequate computers accessibility and availability to staff at all times. Established policies for computer usage and access.				X		Computers are widely used and accessible to staff. Policies are in place.
6. Comprehensive program of hardware and software replacement, upgrade, and termination.					X	PC replacement and software upgrade program is effective.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.3

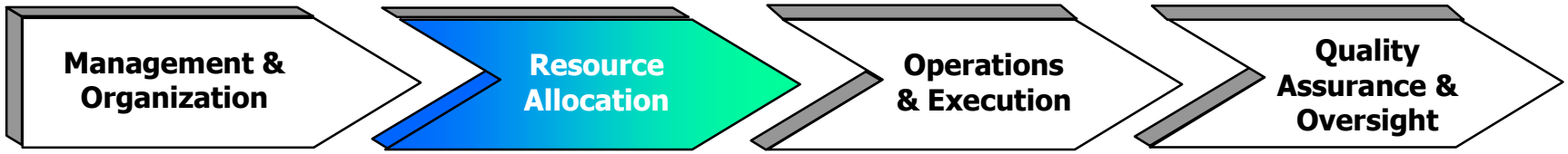


B. Information Systems and Technology (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
7. Operations data are recorded, archived, and reported electronically.			X			Some operations data are recorded and reported. More reporting for performance measures is needed.
8. Extensive use of web-based systems for intranet information sources, extranet public awareness and other data management.				X		Web-based systems are in use and under development. Additional opportunities for data integration exist.
9. Computer Maintenance Management Systems (CMMS) are in place, fully functional, and well integrated with work practices and other information systems.		X				Maximo CMMS is in place but is under- or ineffectively utilized. Additional integration with other systems is needed.
10. Highly effective use of instrumentation control and remote monitoring technologies.				X		Instrumentation and control systems are being upgraded at several facilities. Systems are effective and use state-of-art technology.
11. GIS, CADD, and EDM systems are fully implemented and support the organization effectively			X			GIS is extensively used. GIS implementation often unit specific. District-wide GIS coordination/ standardization needs improvement. CADD and EDM systems are in place but document management is not fully implemented and not very effective.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.3



B. Information Systems and Technology (cont'd.)

Efficient and Effective Elements Desired Behaviors	Score 1	2	3	4	5	Comments Regarding SCVWD's Performance
12. Accounting, billing, human resources and other business systems employ current technology and are well integrated through the organization.			X			Systems use some older technology but several are currently being updated. They are not well integrated with other operational or management systems in the organization.
13. Adequate training to all employees.				X		Training appears to be adequately provided on an as-needed basis. Additional training is needed on Maximo.
14. Effective use of highly skilled network/hardware/software administration personnel.				X		IT staff are highly skilled and motivated.
15. Organization of IT staff and management levels is effective and well coordinated.		X				More coordination, direction, and visibility is greatly needed. Suggest appointing director of information systems and technology for District.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 3.3

Capital Improvement Program

BACKGROUND

The major goals of the District's Capital Improvement Program (CIP) are to facilitate the identification, scheduling, funding and tracking of requisite capital projects within both the Water Utility Enterprise and Flood Management Divisions. Each year the District spends approximately $40 million for capital improvements to the treatment plants, conveyance systems and flood control program. Future CIP needs are expected to increase to above $100 million per year for a few identified years in order to meet more stringent surface water quality goals and planned flood protection projects. Accordingly, the District's CIP is an important, annual event requiring input from many levels of District staff in order to adequately identify the critical future capital needs and to plan appropriate labor resources for successful project execution. Appropriate prioritization, communication, and performance metrics for each of the individual projects are key to ensuring that the District's most critical capital improvements are being implemented on schedule and budget and lower priority projects are being addressed only when competing resources become available.

Based upon our review of the CIP process, it is our understanding that until this last year, the District's CIP planning process has been mostly informal, with limited attention from management or staff. However, a recent memorandum from the General Manager to staff had a significant positive impact in improving the procedural and administrative priorities for the CIP process. Based in part on this memorandum, recent program alterations have dramatically improved the historic, ad-hoc budgeting and scheduling processes with an overall increased awareness from all involved parties.

Currently, each identified CIP project is proposed with three funding cases:

- Minimum Funding — what must be done to comply with the District Act and applicable legal and regulatory requirements;
- Intermediate Funding — minimum case plus required funding to maintain an effective level of service at the lowest possible cost; and
- Enhanced Funding — provide projects and services that increase efficiency or have added value that advance the strategic goals and objectives of the Board of Directors.

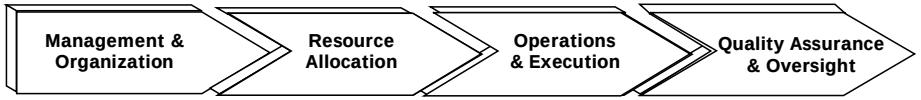
Each Decision Unit Coordinator (DUC) has the responsibility to become familiar with each project under their direction and then to select a specific level of funding for each project in order to achieve the Board's strategic issues and goals within specified budgetary limitations. Often, the DUCs will consider sequencing projects with various levels of funding. The DUCs then work with the Business Unit Managers to evaluate the aggregate impacts of the CIP budget on water rates and financing prior to the General Manager presenting the CIP budget to the Board of Directors for approval.

Capital Improvement Programs (continued)

EFFECTIVE PRACTICES SUMMARY SCORECARD

The graphic on the following page summarizes the findings of the Performance Evaluation for Capital Improvement Program including the Information Technology function. The individual criteria sheets are provided following Opportunities for Improvement in a series of "Efficiency and Effectiveness" tables. These tables present the utility's rating compared with industry effective practices for each of the focus areas under review. Evaluation comments are presented to describe the corresponding practice within the District to support the ratings.

Effective Practices Analyses



Qualitative Competitiveness Scorecard

Qualitative Areas of Review	*Score* 1 2 3 4 5	*Grade*
A. Capital Improvement Program		**2.0**

1 - Significant room for improvement, 3 - Typical utility performance, 5 - Demonstrated best practice

SUCCESSES

The District has developed a very proactive CIP plan with defined two stages of planned upgrades to WTPs to meet new water quality regulations.

The District adopted a new highly effective CIP process composed of a project review process for approving, budgeting, and prioritizing each CIP project as well as a risk-based budget prioritization process that follows initial project prioritization based on the Board of Directors' strategic issues and goals for the year. CIP priorities are developed on a project-by-project basis. Each project is prioritized based on its alignment with the strategic direction of the Board, allocation of the two-year budget, and a series of value and technical judgements, as determined by the District's priority matrix system. Following assignment of weighted scores to each project in each of five areas, an absolute prioritization of all projects is possible; however, to date, the District has not completed an absolute prioritization of existing projects.

The District has also developed several tracking mechanisms for projects and project managers including performance metrics for: cost, number of change orders, scheduling changes, budgetary percent of change orders, large errors, and state-of-art developments. The DUCs have recently implemented a quarterly milestone program, which serves as a means of measuring project progress and establishing PM accountability. In addition, the District tracks project performance through a series of monthly meetings and reports, including:

- Monthly PM update reports including key project aspects, budget status, milestones, key issues and corresponding decisions;
- Biweekly meetings with PMs and key players to discuss actions to date, project status, milestones, and staffing resources;

- Biweekly meetings with facility maintenance, laboratory, treatment plant staff and engineers to discuss potential new projects and prioritization; and
- Monthly meetings with PMs to discuss project status.

A new and more formal process has been implemented for making modifications to the CIP budgets, which has tended to increase the detail and accuracy of the proposed original budget and the justification for budget modifications. Due to the continuing evolution of the CIP program, the individual project managers are becoming more accountable for project successes and failures.

AREAS OF POTENTIAL IMPROVEMENT

Based upon our review of the Capital Improvement Program, our evaluation team noted the following for improvement:

- Capital Improvement Program Manager
- Capital Improvement Program Software

Each of these areas have been identified as having significant opportunities for cost-effective or efficiency improvements. A more detailed description is provided on the following pages for each of these potential opportunities.

A. Capital Improvement Program Manager

Issues

Although the District's CIP process continues to dramatically improve due to the development of a risk-based prioritization process, heightened staff awareness, and improved project tracking, several areas still exist where Malcolm Pirnie believes that the District can significantly improve the effectiveness and efficiency of the current program.

While the District has a fairly sophisticated CIP process, coordination and oversight gaps exist which currently hinder the success of the overall program. There is no single point of contact for managing and coordinating the entire CIP process throughout the year to ensure that execution of the program meets the District's overall objectives. Currently, the AGMs, Business Unit Managers, Decision Unit Coordinators and several staff volunteers contribute significant amounts of time from their normal duties to assist in the administration of the CIP process each year. Lack of an established project prioritization scheme allows individual project managers the discretion to pick and choose the

CIP Manager Responsibilities

- Develops the District's CIP Policy and corresponding procedures
- Promotes the development of new projects from current staff
- Manages the development/execution of the CIP tracking software
- Develops and adjusts the CIP prioritization process
- Develops the District's 5 and 10-year CIP spending plans
- Serves as District's primary information source on capital projects
- Tracks expenditures from funding sources
- Tracks amounts and number of change orders
- Reports monthly on CIP schedule and spending performance
- Monitors individual project manager's performance
- Periodically checks the accuracy of project information
- Liaison to facilitate solutions to staffing and priority conflicts,
- Provides project manager and staff training on details of the CIP process

"important" projects to work on. Monthly and year-end comparisons of actual CIP performance against pre-established goals are not adequately tracked at the individual project manager level.

Opportunities for Improvement

In order to more effectively manage and administer the CIP process, we recommend that the District designate an individual program manager accountable for coordinating and tracking the District's CIP. The suggested responsibilities of the CIP Program Manager are listed in the box above. The selected individual will commit their full-time effort to continually improve the identification, prioritization, scheduling and monitoring of the District's CIP process.

We envision the new CIP Manager would be an existing District employee who is currently familiar with the District's existing CIP process, and has established working relationships and seniority within the organization to effectively manage this important program. This position would be located at the Executive Program Manager level and would report to the head of the Engineering Support Services (ESS) organization. No additional District resources appear to be necessary.

B. Capital Improvement Program Software

Issues

The District is still in the developing stages of implementing its full CIP program. However, based upon our review, there does not appear to be adequate accountability between project managers and the performance of their projects. Monthly and year-end comparisons of actual CIP performance against pre-established goals are not adequately tracked at the individual project manager level. Similarly, there is limited accountability for group leaders and the performance of their staff. It also appears that the District is lacking an effective information technology tool to manage their project information and thus, better manage their allocation of resources and project managers. Based upon our review, several of the Project Managers have developed their own programs in order to manage their projects. These individual tracking systems are not integrated into an overall performance tool in which management can review the status of all of the CIP projects.

Database Characteristics

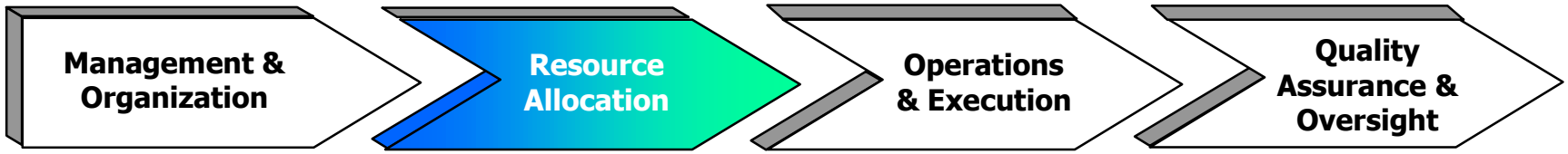
- Maintained by the CIP Program Manager;
- Developed on a web-based platform such that all parties can access real-time project information;
- Identifies project priorities;
- Contain project descriptions;
- Tracks budget, project manager estimates, project status, funding sources, and project milestones;
- Allows group managers to track projects and performance of their project managers;
- Creates automatic reports of varying levels of detail for project managers, DUCs, Business Unit Managers and the General Manager; and
- Facilitates productivity and quality targets, budgeting, resource commitment, and scheduling.
- Linked to financial system.

Opportunities for Improvement

Based upon our review, the District needs to implement a better CIP tracking tool in order to improve the tracking of CIP projects and the accountability of the District's program and project managers. It is our recommendation that the District should create a web-based CIP database that would provide all managing parties with instant, real-time access to relevant project manager and CIP performance metrics. The database would contain all project information on a variety of detail levels, such that each level would be useful to the various levels of District management. It is envisioned that the CIP software would have the following characteristics:

The envisioned CIP software and corresponding IT database would allow more proactive management of the District's CIP project schedules and project actual to budget comparisons.

Effective Practices Analyses- Capital Improvement Program



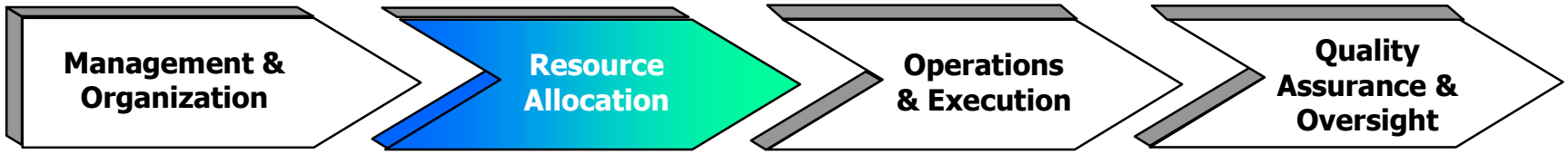
A. Capital Improvement Planning

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
1. Formal, documented CIP policy and accompanying procedures.		X				No formal CIP policy exists. Some documentation on annual CIP process. Recent letter by the GM/CEO identifies CIP as high priority for the District, thereby increasing CIP importance.
2. Formal prioritization methodology for ranking capital projects.		X				DUCs and CIP committee have an new way of prioritizing projects. Due to relative newness of prioritization policy, some uncertainty exists for establishing priority for less critical projects.
3. Senior management effectively communicates project prioritization to staff.	X					Staff and midlevel managers appear generally unfamiliar with prioritization of individual projects.
4. System accurately tracks project performance, including cost, schedule, change orders and funding source.		X				Project tracking occurs. However, there does not appear to be adequate accountability for project manager or year-end summary review of project performance.
5. Promotes project idea development from within.			X			The necessary projects appear to be proposed. Management could implement broader solicitation program to assure input from all employees.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.0

Effective Practices Analyses- Capital Improvement Program



A. Capital Improvement Planning (con't)

Efficient and Effective Elements Desired Behaviors	*Score* 1	2	3	4	5	***Comments Regarding SCVWD's Performance***
6. Rewards or penalizes project managers based on performance metrics.		X				Limited accountability of project managers. Project performance is not tied directly to individual performance reviews.
7. Developed consistent application of capital program between PMs, DUCs, and support staff, including identification of funding source, allocation of resources, project prioritization, and interactive project tracking software.		X				No published formalized methodology for application of capital program resulting in inconsistency between DUCs, project managers, and support staff.
8. Capital projects completed on time and within budget		X				Project Managers and staff have begun to recently monitor project milestone and change orders. Many projects encounter significant delays due to permitting and other administrative tasks.

1 - Significant room for improvement, 3 - Effective utility performance, 5 - Demonstrated best practice

Average Score: 2.0

Other Opportunities for Improvement – Organizational Alignment

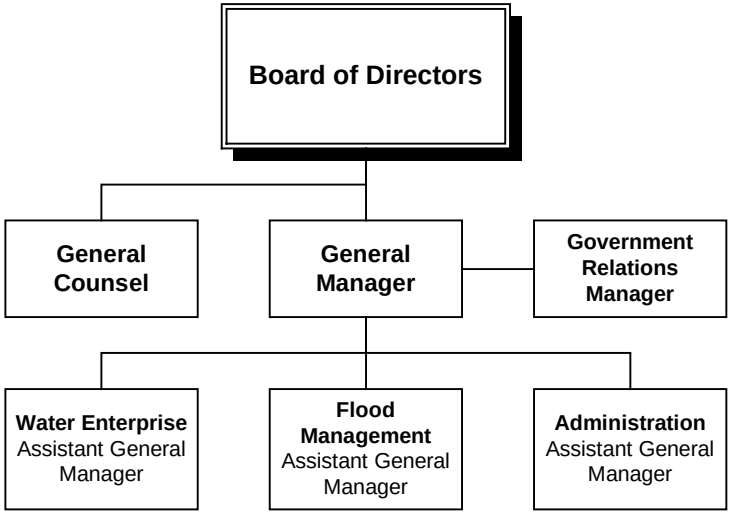
BACKGROUND

Beginning in 1995, Santa Clara Valley Water District underwent a significant reorganization involving all parts of the District. Prior to the reorganization, many felt that the water utility operated as three very independent departments:

- Water Supply,
- Water Quality, and
- Operations and Maintenance

Similarly, the District's flood control operation was separate and almost completely independent from the water utility operation. In essence, many District managers were "running their own businesses", without much concern for or coordination with other District units. The Board and management felt that changes needed to be made to improve overall District performance. Compounding the situation was the fact that a number of senior management personnel were retiring. All of these factors led to a fairly radical restructuring of the District. The figure below depicts the District's senior management after the 1995 reorganization and including Administration that was added in 1998/99.

Affected by the reorganization were the water utility, the District's flood control units and its support functions such as human resources, public information, government affairs, and finance. While a complete discussion of the reasons for and steps taken during this reorganization is beyond the scope of this study, some discussion of its is essential to understanding the current status of the District's organization. A principal reason for the reorganization was to improve the overall communication and flexibility of the entire District organization including the water utility business.



The Board of Directors did constrain the reorganization to some degree by establishing a policy that no employee be economically harmed during the restructuring. A policy was also established requiring that the District promote from within during the reorganization. As a result of these constraints, there were no significant employee layoffs or senior management hires during the reorganization. Recently, District managers met to review the results of the reorganization. The consensus of the managers is that the reorganization has been successful in several ways:

- The reorganization broke up the "silos" within the organization and made communication easier. The breakdown of the rigid barriers between the various parts of the water utility and flood control allowed information and resources, such as people and equipment, to flow more easily across organizational lines.

Other Opportunities for Improvement – Organizational Alignment (continued)

- In general, the District became more flexible because of the reduced number of barriers within the organization. Larger groups were created which inherently have more flexibility to deal with a variety of issues than small, highly focused groups.
- The reorganization improved cooperation between flood control and the water utility. For example, the regulatory agencies overseeing the streams in Santa Clara County insisted that the District's water utility and flood control/stream maintenance personnel operate in a integrated fashion and consider water supply, environmental, flood control and other criteria in making decisions about work to be done in and use of the creeks and flood channels in Santa Clara County.

AREAS OF POTENTIAL IMPROVEMENT

While the reorganization has had some success in the areas described above, it has also created certain problems and issues. The larger groups with broader mandates that now exist within the District's organizational structure make it less clear who is responsible for a particular activity or function. Lack of organizational clarity and responsibility within the District affects the ability of employees to focus on the essential parts of their jobs and also makes it more difficult for both customers and the public to contact the right people within the District with their questions or issues. Further, the District is being challenged to address constantly changing technology, evolving regulations, and local politics. Based upon interviews of both District management and staff, it is apparent that changes to the organizational structure are necessary to improve District effectiveness and efficiency.

While the reorganization has had some success in the areas described above, it has also created certain problems and issues. Our evaluation team discussed the issues outlined above and potential means of resolving these issues. We concluded that some realignment through transfer of selected units or consolidation of District functions would be beneficial. Based upon our review of the Organizational Alignment, our evaluation team noted the following for improvement:

A. Consolidation of Project Development, Engineering, and Planning Functions
B. Water Quality and Water Resources Planning Functions

Each of these areas has been identified as having significant opportunities for cost-effectiveness or efficiency improvements. A more detailed description is provided on the following pages for each of these potential opportunities.

Other Opportunities for Improvement – Organizational Alignment (continued)

A. Consolidation of Project Development, Engineering, and Planning Functions

Issues

The 1995 reorganization created a Project Management group made up of executive and senior project managers, a few project coordinators and other support staff. The group has no dedicated engineering staff assigned to it (see Project Development group discussion below). The intent of this component of the reorganization was to create a "matrix management" structure, and the project managers were expected to manage multi-year, cross-departmental projects. The exact reporting relationship of the Project Management group is unclear. Some of the Executive Project Mangers report to the Flood Management Assistant General Manager while others report to the Water Enterprise Assistant General Manager.

Simultaneously, a Project Development group was established within Flood Management. This group contained many of the engineering and related support functions necessary to complete projects, such as Facilities Planning and Design, Environmental Compliance, Land Surveying and Mapping, and Construction Administration.

Thus, to complete a moderately complicated project, it is likely that an Executive Project Manager would have to "borrow" engineering support staff from Project Development as well as from operations units and other parts of the District.

This matrix approach to project management has been modestly successful. However, many feel that the true responsibility and accountability for projects has actually been reduced as a result of the creation of this matrix structure. A more unified project management entity would increase accountability and facilitate the creation of project teams using primarily internal project management group resources (as opposed to borrowed resources).

Opportunities for Improvement

This section focuses on realignment in the following two areas: 1) consolidation of project development, engineering, and other technical functions, and 2) consolidation of District-wide planning functions. The recommended realignment would involve creation of two new organizations within the District as discussed below. It is important to note that the creation of these organizations does not necessitate the hiring of any additional staff. We believe both units can be managed by, and staffed, with current District employees.

Engineering and Scientific Services (ESS)

We recommend that an Engineering and Scientific Services organization be created by consolidating the various engineering, scientific, and other technical support units within the District into a single organization. The organization's mission would be to provide project development, engineering and scientific support services to the rest of the District organization.

Engineering and Scientific Services Organization Functions

- ✔ Systems Planning and Design
- ✔ Project Planning and Design
- ✔ Environmental Compliance
- ✔ Long-term Project/Program Management
- ✔ Land Surveying and Mapping
- ✔ Real Estate Services
- ✔ Construction Administration
- ✔ Water Quality
- ✔ Laboratory

The organization's principal clients would be the two operations divisions (Water Enterprise and Flood Management). The ESS organization would provide technical support to the Strategic Planning unit (see subsequent discussion) and would have responsibility for the larger, longer term District programs and projects such as the:

- Stage 2, D/DBP Rule Water Treatment Plant Modifications
- Coyote Watershed Improvements
- Comprehensive Reservoir Watershed Management Plan
- Integrated Water Resource Plan Update

Combining planning, engineering and science functions will create an environment that generates more comprehensive and holistic view that consider the integration and interaction of different aspects of water utility operations. Combining similar support functions also aligns with the District's goal of breaking down communication barriers and developing awareness of the District's operations as a whole.

Transferring the Project Management unit and the Project Development Group into the ESS organization would create the core project management and engineering capabilities for this new division. Similarly, transferring the Laboratory, the Water Quality Unit, and the Environmental Compliance unit (part of Project Development) would create the core scientific capabilities into the ESS organization.

The reporting relationship for the new ESS organization could be handled several different ways. One possibility would be for the ESS organization to report directly to the CEO/General Manager. Another possibility would be for it to report to one of the three existing Assistant General Managers. However, since the ESS organization is a *service* organization with a mission of providing project development, and technical and scientific services to the operating groups, it is very important that it be *independent* regardless of its exact reporting relationship. Independence will ensure that the ESS organization furnishes its services to those projects that have the highest District-wide priorities, regardless of which unit within the District is the sponsor or "owner" of the project.

Historically, there has been little interaction between designers and operators which has resulted in inefficient designs or designs that were not practical for daily operations. Input from the Operations personnel is critical to produce an effective operable facility. To address this concern, design project schedules should include frequent, predetermined input from the operating staff, including meeting participation and design review periods.

Strategic Planning

The current organizational structure of the District does not include a centralized strategic planning function. Strategic planning that takes place at the District is conducted within individual groups or units seeking to develop such plans for decision-making purposes. Separate business plans have been developed for both the Water Utility and Flood Management addressing benefits and services to be provided by each entity and the financial outlook for each. Recently, the Board has adopted Ends Policies, which identify subjective goals for the District. To our knowledge, the District does not currently have a strategic plan addressing how the District will attain these goals, although staff is in the process of developing interpretations of these policies. A key initial responsibility for the strategic planning unit would be the development of these interpretations over the next year. As the District continues to grow, as regulatory requirements increase, and resources (both financial and personnel) are stretched, an overall strategic plan(s)

will be increasingly important to assure effective/efficient decision-making occurs. Such a plan will allow both managers and staff to better understand the framework in which their decision fits. The strategic plan should also (1) establish a mission for each division, and (2) support annual and longer term budgeting. The strategic plan should provide groups with needed direction regarding daily operations and long-term projects.

We recommend that a small, strategic planning unit be formed primarily (or even entirely) from current District staff. This unit should report to a high level within the organization, probably to the General Manager. The unit should have a small, streamlined staff and be led by an experienced manager with an excellent knowledge of water issues (both utility and flood) and an ability to think long term.

B. Water Quality and Water Resources Planning Organizational Realignment

Issues

At this point in time, the District's organizational structure is still not completely clear. The District does not have a single, unified organization diagram illustrating how all of its units fit together. As a result, reporting relationships are unclear and accountability is lacking in a number of areas. This continues to cause confusion among employees, customers, and the public.

The District's Water Utility is led by the Assistant General Manager, Water Enterprise. This AGM is responsible for the operation and maintenance (O&M) of the District's Water Utility facilities as well as for water quality, a number of capital projects (*e.g.*, Stage 1 water treatment plant modifications), and some long range programs (*e.g.*, water management strategy, water recycling). However, the Water Utility also contains a number of units, which are much more closely aligned with the District's flood control mission than its water supply mission. These include:

- Watershed Maintenance Units (921, 922, 923);
- Watershed Engineering Unit (961);
- Special Projects Field Unit (924);
- South Flood Control Zone coordination;
- Agriculture Committee coordination.

Likewise, there are units within the Flood Management organization, which appear directly or closely tied to the Water Utility or perhaps to a consolidated engineering and/or planning group. These include:

- Water Quality
- Laboratory Services
- Project Management of Stage 1 and Stage 2 water treatment plant improvements
- Water Conservation
- Water Supply Policy and Planning
- New Water Quality Laboratory Project

Also, review of the District's organization charts reveals that there are a number of District employees who are to be assigned to both the Water Utility and the Flood Control operation. Individuals with multiple reporting relationships include:

- Executive Project Manager(s)
- Laboratory Unit Manager
- Engineering Unit Manager(s)
- Water Quality Unit Manager

Other Opportunities for Improvement – Organizational Alignment (continued)

The 1995 reorganization appears to have located various functions under Flood Management or the Water Enterprise in an effort to improve communication and coordination. However, now that communication and coordination have improved in the view of most District employees, reassigning these units should result in a more coordinated, responsive, knowledgeable, and accountable service to the retail water agencies that are the District's principal customers.

Opportunities for Improvement

Interviews with employees and customers indicated that they find the District's current organization structure difficult to understand at times. While the O&M units are quite efficient and effective there are some difficulties with the clarity of the organization structure and specific reporting relationships. This inhibits prompt responses to customer questions and effective teamwork when a particular project or issue crosses organizational unit lines.

Our evaluation team discussed the issues outlined above and potential means of resolving these issues. We concluded that some realignment of the District organization would be beneficial. The recommended realignment (as illustrated in the figure on the next page) would involve:

- Transfer of units with responsibilities that are primarily related to flood management to the Flood Management portion of the organization;
- Transfer of units with responsibilities that are primarily related to the water utility to the Water Enterprise portion of the organization; and
- Transfer of the Water Quality and Laboratory units to either the Water Enterprise or another location within the District.

Other Opportunities for Improvement – Organizational Alignment (continued)

RECOMMENDED REALIGNMENT OF
ORGANIZATION UNIT REPORTING RELATIONSHIPS

P. Kay Whitlock, Asst. General Mgr.
Flood Management

- Water Supply Policy & Planning
- Flood Management Policy/Planning
- Water Quality Unit
- Community Projects Review
- Imported Water
- Underground Storage Tank Program
- Water Conservation Program
- Hydrology/Geology
- Environmental Resources Management
- Laboratory Services
- Well Services
- Water Resources Technical Services
- Facilities Planning & Design
- Construction Administration
- Systems Planning and Design
- Project Development Technical Services
- Land Surveying and Mapping

Walt Wadlow, Asst. General Mgr.
Water Enterprise

- West Watershed Field Unit
- Central Watershed Field Unit
- East and South Watershed Field Unit
- Special Projects Field Unit
- Raw Water Field Operations
- Facilities Management
- Facilities Operation
- Water Measurement Services
- Equipment Management
- Facilities Engineering
- Water Management Strategy
- Water Supply General
- Groundwater Management
- Water Retailers Coordination
- Laboratory
- Underground Storage Tank Program
- Drinking Water Quality

Units with primarily a water supply/resources focus

Units with primarily a water quality focus

Units with primarily a flood management focus

NOTE: Discrete projects shown on District organization charts have been excluded.

Other Opportunities for Improvement – Organizational Alignment (continued)

Benefits

There are several benefits to this realignment of organizational units:

Clarity of Purpose and Accountability — The units within the Water Enterprise organization will all have missions that are closely aligned with the mission of the Water Enterprise. This will produce a unity of purpose and an improved clarity as to what needs to be accomplished by the Water Enterprise. The realignment will result in less complicated reporting relationships, thereby improving communication and integration of work efforts. Sharing resources among units within the Water Enterprise will be easier than borrowing resources from Flood Management or other major groups in the District. Ultimately, the improved clarity of purpose will improve productivity by creating a water utility that operates more efficiently. Above all, units will be more accountable and better focused on achieving the Water Enterprise mission.

Priority Setting — By realigning the organizational units within the Water Enterprise and the Flood Management portions of the District, the ability of the District to set priorities will improve.

For example, during the capital budget process the District must decide which Water Utility and Flood Control projects should be assigned high priorities and therefore be implemented rapidly. By assigning all of the Water Utility related units to the Water Enterprise, this job will be more straightforward for Water Utility projects (we recognize that relative priorities of Water Utility and Flood Management capital projects will still have to be established through discussion and negotiation). Water Utility projects won't cross organizational lines to the same extent they do now and the prioritization process should be easier to complete because a fewer organization units and people will be involved.

The same is true of the assignment of engineers, planners and other professionals to the various capital projects. Because the water utility will have a well-defined list of its major capital projects, it will be able to determine its resource needs and to make specific plans for implementing those projects through the use of its own staff, other selected District staff, and outside resources. The amount of borrowing of resources from the Flood Management and other portions of the District should decline and productivity should improve.

Communication — Communication is always best among individuals within a small organization unit and between units within a well-defined larger organization. Conversely, the effectiveness of communication decreases when it crosses organizational lines between units that perform different types of functions due to differences in terminology, performance measures, and organizational style/culture. The realignment suggested above would consolidate all of the units which are ultimately charged with providing District customers with high quality drinking water in sufficient quantities within the Water Enterprise. This will make communications easier and more direct and also allow issues or problems to be identified and resolved more quickly. The chain of command and the authority and responsibility for decisions will be clearer. All of these factors should improve productivity.

Technical Skills, Professional Development & Education — Given the current state of government regulations and public expectations, the successful operation of a water utility today involves a fairly complex and technical series of activities. As with any technical task, education and

training are keys to successful performance. By creating better alignment within the Water Enterprise, the District will have a better ability to provide the necessary technical resources, education, and training to operate its water utility effectively and efficiently. This may result from discrete formalized training programs for operators, maintenance people, water quality specialists, engineers, and others or informally through discussions among individuals within the Water Enterprise.

A collateral benefit is that the education and training will create new opportunities for employees to advance their careers. We believe that this education and training will be improved by consolidating the various water utility units within the Water Enterprise as opposed to having them spread among several portions of the District organization, as is currently the case.

Santa Clara Valley Water District
SECTION 5 – FINANCIAL REVIEW

INTRODUCTION

The Santa Clara Valley Water District (District) has engaged Malcolm Pirnie, Inc. to perform a Financial Review as Phase IV of the Performance Audit of the Water Utility Enterprise. The goal of this project is to allow the District to gain a better understanding of its strengths and weaknesses with respect to the processes, procedures and activities that it utilizes in order to meet its current and long term financial obligations. The District Board wishes to obtain an objective evaluation of the financial methodologies in order to better monitor fiscal planning and performance, ensuring District stakeholders receive the highest possible benefit for their rate dollars.

This study focussed on a number of key financial areas to gain an understanding of the District's fiscal effectiveness. Because the financial management procedures of the District or any business entity are broad, Malcolm Pirnie conducted a general review of the primary fiscal functions, conducting additional research and analysis when justified. As a starting point, we looked at five general areas:

- Budget development process
- Budget tracking and performance
- Direct and indirect cost allocation
- Capital financing policy
- Water rates

Information Gathering and Validation Process

In order to obtain current and comprehensive information Malcolm Pirnie reviewed various District documents. Specifically, we reviewed District financial information from:

- The 2-year (1999-00/2000-01) Capital and Operating Budget
- The June 1999 Comprehensive Annual Financial Report
- District organizational charts
- District monthly and quarterly Budget and Financial Status Reports
- The July 1999 Water Utility Enterprise Report
- The April 1999 Water Utility Business Plan
- Other District documentation

Once this information was reviewed, Malcolm Pirnie identified a number of key District staff to be interviewed. Working with the District, interviews were scheduled. Various staffpersons from the Water Enterprise, Flood Management and the finance and budget units of the Administration group were interviewed on four separate occasions in January and February of 2000. The interviews were conducted by senior Malcolm Pirnie staff and subconsultants, with expertise in utility financial management. As necessary, the interviewees were contacted for follow-up information and clarification. All interviews were recorded using written notes and summarized for later analysis. All specific discussions during interviews will remain confidential among the Malcolm Pirnie assessment team.

Report Approach and Format

As mentioned above, a review of the financial management practices of any business entity can be an extensive exercise. However, relying on the District's voluminous financial information and our interview findings, our team was able to narrow down the financial review to a subset of areas that warranted additional analysis. In addition to providing an overall assessment of the financial management of the District, this report identifies a distinct set of "successes" of which the District should feel proud. This document also addresses specific "opportunities" for the District to improve its methods. For those areas of financial management that are not specifically identified within this text, either as a "success" or an "opportunity", we find that the District is performing in a manner consistent with acceptable industry standards and practices.

- Some examples of functions in this "acceptance" category include:
- The allocation of direct and indirect costs to various functional units within the District
- The District's sensitivity to maintaining an acceptance overhead percentage
- The ratemaking methodologies and structures in place to recover costs
- The District's use of reserve funds
- The incorporation of budgetary controls

SUCCESSES

Based on our assessment of financial management practices, the District has implemented a number of successful programs and procedures and utilizes fiscal management techniques that promote efficient utility operation while protecting the interests of District stakeholders.

Award-Winning Budget Process and Document

The District's annual budget document presents a detailed account of the policies and procedures in place to ensure sound long-term financial decision-making. In addition to providing a detailed fiscal plan, the budget puts forth an in-depth discussion of the entire budget development process and how it relates to the District's long range planning process, utilizing a set of results-driven principles. Reproduced on page 5 is a flow chart of the

District's budget development process. It provides the overall framework that the District employees follow when preparing the annual or biennial budget.

A well-documented budget process is crucial when considering the implementation of fiscal policies that may impact large user groups. In our opinion, the District's budget process provides a supportable foundation. Our assessment is shared by the Government Finance Officers Association (GFOA), which presented the District the Distinguished Budget Presentation Award for its fiscal 1998-1999 annual budget (the fourth year the District has received this award).

Project Prioritization System/Methodology

Related to the District's budgeting process, but worthy of additional acknowledgement is the District's Priority-Setting Process. In concert with the two-year budget development process, the District developed a methodology to evaluate various "projects" from a cost vs. benefit perspective. As noted previously, "projects" at the District comprise multiple activities, not just capital projects. As such, the term "project" can refer to facilities operation, small maintenance projects, capital projects, and/or large, multiyear programs. As the District's resources are finite, a priority-based system for selecting and allocating budgets to projects was developed. This system integrates the District Board's Priority Issues and Strategic Goals with a quantitative weighting system in order to allocate funds to that set of projects that will maximize the furtherance of the Board's priority objectives. Staff is working to improve the usefulness of the priority system to the operating units. In addition, the priority system is being reviewed to ensure that it supports the Policy Governance Model adopted by the Board.

Santa Clara Valley Water District — Board Priority Issues and Strategic Goals

1 Water Supply
Strategic Goal: To provide reliable, affordable and high-quality water now and in the future by enhancing supply and system flexibility.

2 Flood Management
Strategic Goal: To conduct a community-supported program that protects lives and property, is financially supportable, provides good value and is environmentally sensitive.

3 Stream/Watershed Management
Strategic Goal: To manage District activities to be reflective of our stewardship or watersheds and riparian corridors, while proactively complying with regulatory mandates.

4 Work Environment
Strategic Goal: To achieve and maintain a diverse workforce within a positive work environment that fosters enhanced teamwork and overall productivity.

Santa Clara Valley Water District — Board-weighted Priority Objectives

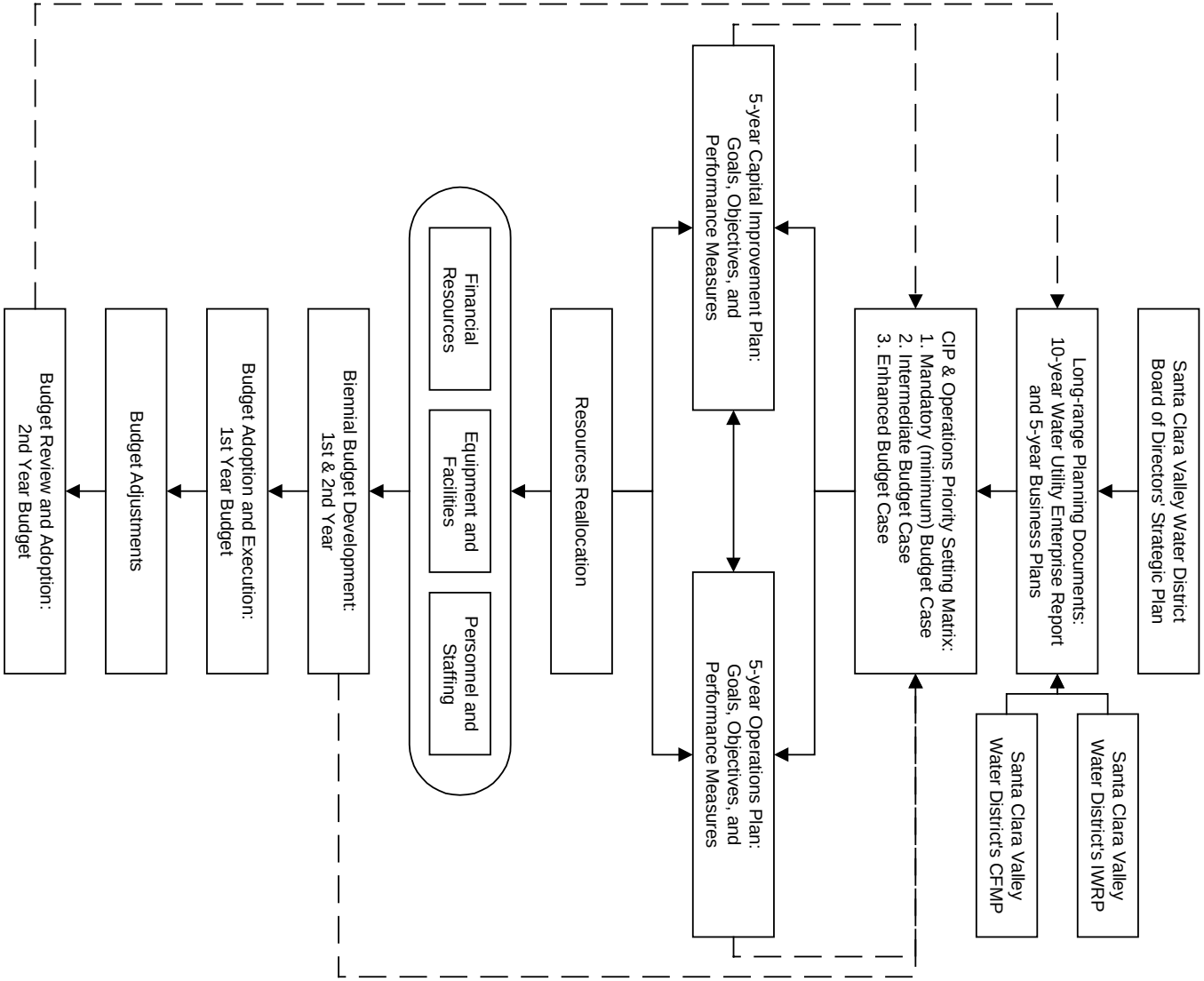
- **Maximize Public Health and Safety — 35%**
- **Maximize Community Support — 19%**
- **Minimize Financial Impacts — 19%**
- **Maximize Environmental Quality — 15%**
- **Maximize Customer Service — 12%**

Minimum: Meet requirements of the District Act and other legal, regulatory requirements. Perform corrective maintenance and meet minimum commitments to the community.

Intermediate: Maintain an effective level of service at the lowest possible cost. Perform preventive and corrective maintenance. Meet requirements of the District Act and other legal, regulatory, and contractual obligations.

Enhanced: Provide projects and services that increase efficiency or have added value that advance the strategic goals and objectives of the Board of Directors. Maintain an effective level of service at the lowest possible cost. Perform preventive maintenance, meet requirements of the District Act and other legal, regulatory, and contractual obligations.

The first budget using this new methodology was completed approximately one year ago. Consequently, the degree of success of the new budget process is still being determined. However, the process itself is logical and comprehensive and looks promising in terms of allocating the District's limited resources to its potentially unlimited needs.



Biennial Budget Development Framework

Budget Monitoring and Tracking System

The District produces a number of useful reports that monitor budget compliance on a monthly and quarterly basis. These timely, widely distributed reports contain summaries of revenues and expenditures by Fund and by Category in order to provide varying degrees of fiscal detail to District staff, Board, and first line supervisors and management. These reports also monitor salary, benefits and overhead from a District-wide perspective. In addition, the District's budget/staff provide ad-hoc reporting to other management units in order to facilitate budget tracking on a project-by-project basis.

Continuous Improvement Ethic

As reflected in the budget document and more importantly in the interviews, the District appears to be committed to constant improvement through an informal continuous improvement process. From a financial management perspective, our assessment is evidenced by the previously described approaches towards priority-setting and budgetary reporting. Another obvious example of this philosophy is the District's engagement of Malcolm Pirnie as a third party to conduct this performance audit and the subsequent cooperation of the District staff in providing a candid assessment of the utility's fiscal procedures.

Qualified, Integrated Staff

Lastly, the District has assembled a group of well-qualified professionals that have a solid understanding of operating a wholesale water district and managing the business from a financial perspective. Based on our interviews, there exists a good relationship of communication and coordination among the water utility management and finance professionals, allowing the groups the work effectively in managing the relationships among capital, operations and the financing of those programs.

OPPORTUNITIES AND RECOMMENDATIONS

While overall, the District's financial management policies and procedures appear to be sound, Malcolm Pirnie identified three opportunities for improvement. Two of these opportunities (Opportunity #2 and #3) are comparatively minor compared to Opportunity #1, but are presented for the purpose of completeness. This section describes these areas, the real and potential impacts on District stakeholders and our suggested recommendations regarding the means of benefiting from these recommendations.

Opportunity #1 - Budget Management

The first and most significant opportunity for improvement relates to the management of the District's budget. While the award-winning budgeting process was described above as a definite "success", we identified three minor points that should be addressed by the District to maximize the efficiency and effectiveness of the budgeting process.

1. **Embedded vs. Explicit Contingencies**
   As a key component of our review of the District's financial information, we examined the District's June 30, 1999 Comprehensive Annual Financial Report (CAFR). As reflected in the CAFR, during 1999 the budgeted amounts for Operations and Maintenance and for Capital Outlay significantly exceeded actual expenditures. This situation is illustrated in the following table for the Water Enterprise.

Santa Clara Valley Water District **Water Enterprise Fund *** **For the Year Ended June 30, 1999** **Expenditures (Selected Items)**	***Budgeted Expenditures***	***Actual Expenditures***	***Variance Favorable (Unfavorable)***	***Variance as Percent of Budget***
Current Expenditures:				
Operations & Maintenance	$ 83,955,000	$ 77,305,000	$ 6,650,000	7.92%
Operating Projects	$ 3,892,000	$ 3,347,000	$ 545,000	14.00%
Capital Outlay:				
Capital Improvement Projects	$ 49,525,000	$ 20,165,000	$ 29,360,000	59.28%

* Source: Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 1999

The same situation appears in the Governmental Funds (the District General fund and the Special Revenue funds for the Flood Control Zones) for 1999 as shown in the following table.

Santa Clara Valley Water District All Budgeted Governmental Fund Types — Total * For the Year Ended June 30, 1999 Expenditures (Selected Items)	***Budgeted Expenditures***	***Actual Expenditures***	***Variance Favorable (Unfavorable)***	***Variance as Percent of Budget***
Expenditures				
Operating Budget:				
Operations & Maintenance	$ 49,193,000	$ 40,818,000	$ 8,375,000	17.02%
Operating Projects	$ 5,401,000	$ 4,460,000	$ 941,000	17.42%
Capital Budget:				
Capital Improvement Projects	$ 94,418,000	$ 41,810,000	$ 52,608,000	55.72%

* Source: Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 1999

After discussing our findings through interviews of key financial staff, we believe the District's budget development methodology may be creating a problem with "imbedded contingencies." A common occurrence with most public utilities, the "bottom-up" approach to budget development often leads to the problem of "imbedded contingencies" being introduced into group-level ("Decision Unit" in the case of the District) budgets. That is, in order to ensure line item level budget variances do not cause a group-level budget overrun, a common practice is to "pad" the budget. On the micro level, this is not necessarily a problem, however if this process is utilized by all Decision Units comprising the utility, the impacts can become quite dramatic.

We acknowledge that there are a number of special circumstances currently impacting the District that may be contributing to dramatic budget variances described above. For example, in today's competitive labor market, the District is experiencing difficulties in filling open positions. Because these vacant positions are included in Decision Unit-level budgets, continued vacancies lead to favorable budget-to-actual variances. Additionally, the District has been facing a backlog of funded, yet uncompleted capital projects as well as providing contingencies for regulatory compliance. Coordination with federal and state agencies and environmental challenges have delayed many capital projects. For example, work on the Guadalupe River project in downtown San Jose has been suspended for 4 years. Work has now resumed after a successful collaborative effort by all parties.

2. **Water Sales Forecasting**

Imbedded contingencies are not limited to expense budgets, as they're also used when projecting revenues. While the District's 1998 and 1999 CAFR reflects a significant improvement in projecting revenues compared to the 10% favorable variance in fiscal 1997, interviews with key

financial staff indicate a more accurate approach to revenue forecasting is needed. According to District staff, the water demand-forecasting model in place does not provide a high enough level of accuracy to ensure adequate revenues given the Districts water rate structure. Subsequently, water production and "sales" figures are estimated conservatively during the budget development process, which produce higher water rates but ensure adequate annual revenues are realized. These overly conservative water sales forecasts have historically led to large (favorable) revenue variances. The District's customers expect the District's water pricing structure to be consistent with the actual cost of service without including imbedded contingencies for inadequate water demand forecasting technology.

3. **Budget Ownership and Accountability**
   As described above, the District's budget staff does an excellent job at producing and distributing timely, comprehensive financial reports. However, based on interviews with District staff, these reports are not being effectively utilized by District decision-makers as a project and/or financial management tool. Monthly and quarterly financial reports can provide a wealth of information to project and unit managers concerning the fiscal health of District operations and capital projects. However, in order for these reports to be of value, they must be 1) read by their users, 2) understood by their users and supervisors, and 3) used as a measure of accountability.
   A number of District interviewees do not believe project managers review the monthly/quarterly budget reports. Additionally, concern was expressed that the information contained in the reports is not understandable to District personnel that lack a financial background. Lastly, and most importantly, "recycling" these reports has no direct impact on most District staff. Because these reports originate from an external department, few staff believe they are accountable for the budget and actual revenues and costs reported in their project's or unit's financial reports. Some non-financial District staff members apparently believe that the financial units are responsible for management of budgets, not the line or functional units. A process is needed that encourages an understanding of the budget reports and their use, as well as accountability with respect to the budget management process.

Recommendations — Budget Management

1. The District should consider conducting a review of its "bottom-up" budget development methodology from the Decision Unit level to determine whether there are any imbedded contingencies that can be readily identified. The District may also find it useful to compare these contingencies across Decision Units. It is a possibility that multiple Decision Units are including the same imbedded contingencies within each of their budgets.

   Budget contingencies should be both adequate and explicit. Once imbedded contingencies are identified, the District should consider establishing a more useful explicit contingency policy. Explicit contingencies are those that are listed as individual line items on an operating or capital budget. By including a reasonable, yet adequate set-aside as part of the budget development process, individual Decision Units are less likely to include imbedded contingencies within their estimates. Depending on the historical variance of the particular budget, an explicit

contingency of five to ten percent may be acceptable. Additionally, by incorporating explicit contingencies as part of the annual budget process and tracking their adequacy throughout the year, the District will be better able to identify needs for the following budget cycle.

2. The District should work towards improving its water demand forecasting methods. Demand forecasting is a difficult process, however a number of improvements have been made in recent years to technical software that allow better forecasting with reduced variance. The District currently uses the IWR-MAIN demand model for forecasting dry and wet years. However, the interface between the water demand forecasting and revenue forecasting functions may require further review. Ideally, a water demand forecast should provide a "baseline" consumption profile with the ability to adjust the forecast based on wet and dry years, or other variables. By obtaining a forecast with upper and lower (best case and worst case) sensitivities, the District would be more likely to accurately price its services, rather than adjusting rates to compensate for artificially conservative water demand forecasts.

   More importantly, the District should consider adding an explicit contingency to account for water demand variances. Used by many utilities, these "wet year contingencies" act as annual reserve funds to offset revenue shortfalls that occur with reduced water demand. This practice also encourages rate stability from year to year.

3. The District should develop a procedure to introduce better understanding and more accountability to the budget reporting process. This District should consider providing training in the use of standard and ad-hoc budget reports. More importantly, a better system of accountability needs to be established in order to promote better fiscal responsibility. By introducing accountability to the budget tracking and reporting process through improved functional alignment of groups, District staff may better understand the importance of sound fiscal management on a project-by-project level.

Opportunity #2 – Capital Financing Policy

The District lacks a definitive policy regarding the methods it uses to finance ongoing and CIP-related capital improvements. Like most utilities, the District utilizes a number of financing options to pay for necessary maintenance and upgrades to its infrastructure. Available sources of funding for water utilities include among others: the issuance of general obligation, revenue bonds, and certificates of participation (COPs), loans and grants from state and federal funding agencies, and pay-as-you-go (PAYGO) financing. Based on our review of District financial documentation, PAYGO and revenue bonds or COPs have been the most popular sources of funding for the District's capital improvement programs. While the use of PAYGO and bonds is standard practice in the water industry, the District lacks a formal policy to determine which capital projects will be financed using current revenues (PAYGO) as opposed to those that will be financed using debt. Based on the interviews and District financial documentation, it appears capital financing decisions are made by the District on a project-by-project basis.

A formal capital financing policy is important to a water utility as it is entrusted with the resources provided by its stakeholders through user rates. The District has a responsibility to its stakeholders to manage its revenues from year to year. An industry-accepted standard of capital financing is the approach that the users of the system should pay for the capital improvements from which they will benefit in future years. Achieving this cost-benefit equality requires the utility to establish a balance between paying for system capital with current revenues and/or financing those improvements over a multi-year period, usually with debt. Adopting and following a documented policy that outlines the use of current revenues and debt for capital financing sends a message to utility stakeholders that the alignment of system costs with user benefits has been considered.

Recommendations — Capital Financing Policy

1. The District should develop and implement a capital financing policy that explicitly prescribes the use of debt and PAYGO financing for capital improvements. The District may consider a variety of approaches to this methodology, determining the use of debt versus PAYGO (or vice versa) based on factors such as:
   - Project cost
   - Current indebtedness
   - Useful life of project infrastructure
   - Project purpose (maintenance, upgrade, expansion, etc.)
   - Short and long-term rate impacts
   - Available coverage (for revenue bonds)

By establishing a Board-approved capital financing policy, rather than relying on a case-by-case approach, the District will be better able to anticipate the short and long-term fiscal impacts of its capital improvement programs. Additionally, the implemented policy will likely provide additional stakeholder support to the District's management of current and future rate revenues.

Opportunity #3 – Cost of Service and Rate Setting

Based on information gathered during the interviews, the cost of service information the District uses to develop rates is likely outdated, especially in the case of the north and south County customers. According to one District staffer, the cost of service derivation is "logical, yet not supportable." In its M1 Water Rates Manual, The American Water Works Association asserts that water rates should recover "…from each class of customer, within practical limits, the cost to serve that class of customer." Through the process of cost identification, functionalization and allocation, the costs borne by any given user class are recovered from that user class via a "fair and equitable" rate structure.

Simply, it appears the District's cost of service calculations may no longer be valid especially with respect to servicing north vs. south County customers. Subsequently, the revenues recovered from one or more of the District's customer classes may be subsidizing those from other classes,

creating an inequitable situation. If this assertion is valid, it is not surprising, in light of the considerable growth in Santa Clara County and the evolving environmental mandates. Additionally, the District should review its agricultural water pricing practice for adequacy and fairness. Cost of service is dynamic, requiring periodic review and adjustment to maintain rate equity and fairness across all user groups. An out-of-date cost of service methodology is certainly not an unusual situation for a water utility, especially a regional wholesaler. However, if left unchecked, rate disparity among user groups can lead to public cries of inequity by the voting public and, in the extreme cases, potential legal action.

Recommendation - Cost of Service and Rate Setting

1. The District should consider engaging an independent professional services firm to perform a comprehensive cost of service study. This effort should involve 1) the systematic identification of all direct and indirect costs; 2) the functionalization of costs to District activities (e.g. treatment, distribution, administration, etc.); and 3) the weighted allocation of those costs to the user classes that generate them. Based on the District's sophisticated budgeting and cost tracking systems, the first two steps of the cost of service study should be relatively straightforward. The key to developing a supportable methodology lies in obtaining an accurate allocation of costs among the various user classes.
2. Based on the findings of the cost of service study, the District should review, and modify if necessary, its user rate methodologies and policy to ensure rate fairness and equity across all user groups. This recommendation may appear to be an obvious next step; however, a supportable cost of service analysis does not always trigger a review of the rate setting methodology. Many utilities use cost of service studies primarily for background information, treating rate setting as a policy exercise. In order to ensure fairness and equity among user classes, the District must apply the findings of the cost of service study to its current user rate methodology, making adjustments as necessary.

CONCLUSION

The District should be proud of its financial management policies and procedures, as well as the diligent application of those procedures. Overall, the District does an excellent job of effectively and efficiently managing the resources of its stakeholders. This success can be attributed to:

- An award-winning budget development process
- A new, yet sound priority-setting methodology
- A thorough budget tracking and reporting process
- A continuous improvement ethic
- A qualified, integrated staff

However, the District does have room for improvement. Specific components of the budget management process should be reviewed. Additionally, the District's lack of a capital financing policy is of some concern as is the validity of the current cost of service analysis. These are not major concerns, but addressing them will ensure the District continues to effectively protect the long-term economic interests of its stakeholders.

Santa Clara Valley Water District
Performance Audit

SECTION 6 – STRATEGIC ACTION PLAN

In performing our evaluation, several opportunities were identified to assist the Board in effectively monitoring the activities of the CEO/General Manager under the Carver process. Specifically, the Board could greatly benefit by Management's use of graphical and tabular performance measures for periodic reporting for each of the stated Ends Policies and Executive Limitations. In order to further assist the Board, Malcolm Pirnie has provided a summary of our Board Governance recommended action items in the following table.

BOARD ACTIONS: GOVERNANCE

ITEM	GOAL	BOARD OF DIRECTORS	GENERAL MANAGER	START COMPLETE DATES
1	Establish Key Performance Metrics	Review and discuss Malcolm Pirnie's suggested key performance metrics	Review and comment on Malcolm Pirnie's suggested key performance metrics	April 2000 May 2000
		Decide on specific performance metrics for each Ends Policies and Executive Limitations	Discuss where and how each metric can be most cost-effectively tracked	May 2000 May 2000
		Discuss and agree on the appropriate graphical or tabular format for each metric	Participate in discussions as appropriate	May 2000 May 2000
		Discuss results with the General Manager	Participate in discussions	June 2000 June 2000
2	Establish Performance Goals for Each Key Metric	Determine appropriate performance goals for each key metric	Identify primary staff in charge of current tracking and discuss improvement of tracking if necessary. Discuss rationale for each goal.	June 2000 June 2000
3	Establish Monitoring Frequency	Discuss and agree on metric monitoring frequency as appropriate	Modify or add tracking as necessary to fulfill monitoring need. Create new databases if necessary.	June 2000 June 2000
4	Establish Exceptions Report	Formalize process for handling of exceptions and violations	Participate in discussions as appropriate	June 2000 June 2000
		Document policy for exceptions reporting	Agree to comply with exceptions reporting methodology	July 2000 July 2000
5	Establish appropriate method for communication of results	Discuss the benefits of using the District's Website versus hardcopy formats	Adjust website as appropriate to maximize monitoring effectiveness	May 2000 July 2000
		Agree on the use of the District's Website	Finalize website structure. Link databases to website. Add formatting to convert raw data into the various layers of detail	June 2000 July 2000

SECTION 6 – STRATEGIC ACTION PLAN (con't)

ITEM	GOAL	BOARD OF DIRECTORS	GENERAL MANAGER	START COMPLETE DATES
6	Monitor metrics	Periodically review and discuss key performance metrics at regular Board meetings	Present metrics at regular Board Meetings	Monthly, Quarterly and Annually
		Specifically discuss noted successes and any significant exceptions	Present reasons for exceptions and steps taken to correct deficiencies, mitigate damage and prevent future occurrences	Monthly, Quarterly and Annually
7	Audit Metrics for Accuracy	Annually audit of each metric	Review and discuss audit findings	Annually

In order to assist District personnel, Malcolm Pirnie has prioritized the following specific recommendations for improvement based upon our review of the Water Enterprise. Our basis for assigning priorities is based collectively upon the following prioritization parameters:

- Existing gap as compared to industry standards or best practices
- Severity of existing impact to District operations
- Extent of existing impact to District operations
- Potential benefit or performance improvement
- Relative cost of implementation
- Current degree or status of implementation

STAFF ACTIONS: PERFORMANCE IMPROVEMENT

RELATIVE PRIORITY	MAJOR FUNCTIONAL AREA	DESCRIPTION OF IDENTIFIED OPPORTUNITY	PRIMARY EXPECTED BENEFIT	RECOMMENDED COMPLETION DATES
High	Report Recommendations	Review and agreed upon recommended improvements. Generate improvement action plan.	Coordinated action plan for improvements	May 2000
		Review prioritization and implementation schedule in light of District resources	Resource utilization	May 2000
		Designate accountable and responsible managers for each task	Accountability	May 2000
		Form Process Improvement Teams as necessary to develop implementation plans	Staff alignment and staff input	June 2000
		Involve and empower District staff in the implementation process. Hold staff meetings to discuss improvements.	Staff alignment and staff input	June 2000
		Periodically monitor and present progress to the Board and Executive Management	Improved accountability	Monthly, quarterly or annually
		Communicate progress to all affected staff through posting s on the internet and through AquaFacts	Communication of progress	Monthly
		Communicate progress to other stakeholders as appropriate	External communication of District progress	Quarterly or annually
High	Information Technology	Continue to develop and implement the District's IRM. Develop a strategic level IT Master Plan.	Increased competitiveness and improved accountability	July 2000
		Agree at the Executive Management level the vision of the	Improved business practices	July 2000

STRATEGIC ACTION PLAN

RELATIVE PRIORITY	MAJOR FUNCTIONAL AREA	DESCRIPTION OF IDENTIFIED OPPORTUNITY	PRIMARY EXPECTED BENEFIT	RECOMMENDED COMPLETION DATES
		District's future IT services and capabilities		
		Create an IT leader position and designate or hire an appropriate person to fulfill the position	Elevated visibility and improved accountability	July 2000
		Evaluate existing work practices for efficiency	Improved efficiency	October 2000
		Begin and coordinate IT applications for system integration	Improved business practices	November 2000
		Monitor and report IT system improvements and progress.	Monitor results	Monthly, Quarterly
High	Performance Measures	Determine what information needs to be tracked in order to monitor the Board's Ends Policies and Executive Limitations Policies	Improved Accountability	June 2000
		Determine what information needs to be tracked in order to adequately monitor the Water Enterprise	Improved Accountability	June 2000
		Determine consistent reporting requirements between plants and support units	Improved accuracy	June 2000
		Determine the appropriate accountability for each agreed-upon performance measure	Improved Accountability	June 2000
		Gather staff input on the best means to measure performance	Staff Alignment	July 2000
		Establish predetermined goals for each measure	Improved Accountability	July 2000
		Determine the frequency of monitoring and reporting	Improved Accountability	July 2000
		Post the performance measures on the Website with the appropriate security measures	Communication and Feedback to staff	Monthly
Medium	Preventive Maintenance	Determine the appropriate use of Maximo System. Revise Maximo policy/procedures as needed.	Improved accountability	June 2000
		Coordinate a heightened Maximo implementation plan	Improved accountability	July 2000
		Ensure that all three WTPs utilize the Maximo system to its potential	Improved accountability	Monthly, quarterly, annually
		Trend and track all preventive maintenance activities	Improved accountability	August 2000
		Track equipment condition, usage and hours of operation	Equipment life	August 2000
		Review preventive maintenance schedules and mechanic workloads	Equipment life	August 2000
		Add clerical staff as appropriate to assist in tracking and publishing of maintenance activities	Improved efficiency	August 2000
		Designate appropriate accountability	Accountability	August 2000
		Determine policy of repair versus replacement	Minimize equipment repair costs	August 2000
		Conduct training classes on Maximo and preventive maintenance as appropriate	Staff training	July/August 2000
Medium	Integrated Water Resources Plan	Continue to develop the new IWRP	Strategic planning	July 2000

STRATEGIC ACTION PLAN

RELATIVE PRIORITY	MAJOR FUNCTIONAL AREA	DESCRIPTION OF IDENTIFIED OPPORTUNITY	PRIMARY EXPECTED BENEFIT	RECOMMENDED COMPLETION DATES
		Develop a sound economic basis for projecting costs and risks of water shortage. Include environmental protection and enhancement, conservation and water shortage values	Strategic planning	August 2000
		Optimize future water supplies considering relative cost, reliability and environmental objectives	Strategic planning	September 2000
		Examine the costs of decreasing or increasing the current 10% deficiency assumption	Strategic planning	September 2000
		Link IWRP to other key District planning documents	Strategic planning	September 2000
Medium	Inventory Control	Perform an inventory audit to determine current loss or shrinkage	Determine historic lost inventory	May 2000
		Communicate the inventory audit results to all staff	Staff feedback	June 2000
		Determine appropriate security measures for high priced equipment and equipment hard to keep in stock	Improved accountability	July 2000
		Develop a new asset control policy and tracking procedures	Improved accountability	July 2000
		Link inventory to Maximo and to purchasing records	Improved efficiency	TBD
		Train employees as appropriate	Employee training	August 2000
		Track and publish loss or missing inventory	Employee feedback	Monthly, annually
Medium	Laboratory	Determine and document the appropriate laboratory policy between in-house and outside services	Policy and costs	June 2000
		Consolidate in-house lab services as appropriate	Improved efficiency	TBD
		Coordinate sampling between groups	Improved efficiency	September 2000
		Provide additional staff access to LIMs	Improved efficiency	TBD
High	Water Quality	Determine the appropriate water quality policy goals and compliance strategy	Improved effectiveness and efficiency	June 2000
		Set uniform treatment goals for all three WTPs based on the District's water quality policy	Improved effectiveness and efficiency	June 2000
		Establish single point water quality accountability at a senior level in the water quality policy	Improved accountability	April 2000
		Set process design criteria, determine operations strategies for compliance and establish plant operational criteria during water quality emergencies	Improved effectiveness and efficiency	June 2000
		Clearly communicate the water quality accountability and responsibilities to all affected staff	Improved accountability	June 2000

STRATEGIC ACTION PLAN

RELATIVE PRIORITY	MAJOR FUNCTIONAL AREA	DESCRIPTION OF IDENTIFIED OPPORTUNITY	PRIMARY EXPECTED BENEFIT	RECOMMENDED COMPLETION DATES
Medium	Capital Improvement Program	Create a new CIP Program Manager position	Improved accountability	April 2000
		Determine the appropriate job duties and responsibilities of the CIP Program Manager	Improved accountability	April 2000
		Designate a CIP Program Manager responsible for coordinating and administrating the CIP process throughout the year	Improved effectiveness	April 2000
		Develop CIP tracking software for use by the CIP Program Manager, management and project managers	Improved effectiveness and efficiency	June 2000
		Utilize web based technology to manage the CIP database that contains all relevant project information on a variety of detail levels	Improved efficiency	August 2000
Medium	Business Management and Planning	Evaluate the use of debt versus PAYGO	Formalize policy	July 2000
		Improve forecasting and price accuracy by utilizing technical software and wet weather contingencies	Improved budget preparation	August 2000
		Implement improved accountability for tighter revenue and spending control	Improved accountability	April 2000
		Ensure and equitable allocation of costs among the various user classes based on current data	Equity	August 2000
High	Project Management Reorganization	Consolidate Project Development and Executive Project Managers into a single organization	Improved coordination and project execution	April 2000
		Determine new project team structures	Improved coordination	April 2000
Medium	Strategic Planning Reorganization	Centralize the strategic planning functions into one unit that reports at a high level	Improved planning and accountability	April 2000
Medium	Water Quality and Water Resources Planning Reorganization	Transfer units with responsibilities primarily related to flood management to Flood Management	Improved efficiency, better alignment and increased accountability	April 2000
		Transfer units with responsibilities primarily related to the Water Utility to the Water Enterprise	Improved efficiency, better alignment and accountability	April 2000
		Consolidate and transfer the Water Quality and laboratory units under a single AGM (Water Enterprise or Engineering & Scientific Services)	Improved efficiency, better alignment and accountability	April 2000

STRATEGIC ACTION PLAN

RELATIVE PRIORITY	MAJOR FUNCTIONAL AREA	DESCRIPTION OF IDENTIFIED OPPORTUNITY	PRIMARY EXPECTED BENEFIT	RECOMMENDED COMPLETION DATES
Low	Engineering and Scientific Services	Consolidate the engineering and scientific personnel under a single organization to provide project development, engineering and scientific support services	Improved efficiency, better alignment and increased accountability	April 2000
	Customer and Government Relation	Determine the appropriate primary objectives for each customer and government activity	Improved efficiency	May 2000
		Consider the formation of an External Affairs function	Improved effectiveness	April 2000
		Determine the appropriate level of spending for each function	Improved cost controls	May 2000
Low	Internal Audit	Consider adding an Internal Auditor position	Independent verification	May 2000

Appendix A
Interviewee Lists

Appendix A – Interviewee Lists

Water Operations Interviewee List	
Employee	**Title/ Job Function**
Al Koury	Plant Maintenance Supervisor-Mechanical Maintenance Supervisor
Amador Tarralla	Rinconada WTP Operator – Water Plant Operator IV
Bill Olsen	Heavy Equipment Operator
Blaise Olguin	Field Operations Administrator
Brian O'Mara	Field Operations Administrator
Carol Walsh	Maximo – Sr. Office Specialist
Chris Allen	Rinconada WTP Operator – Water Plant Operator IV
Chuck Coody	Systems Control Supervisor
Dave Adams	Sr. Maintenance Worker
Dave Smith	Electrical Supervisor – Industrial Electrical Supervisor
Don Erba	Unit Manager/Superintendent Facilities Operations Unit Manager
Gary Motch	Industrial Electrician
Greg Gibson	Water Quality Specialist
John Peaks	Microbiologist II
Jack Sutcliff	Engineering Unit Manager
Jeff Micko	Senior Engineer
Jeffrey Walters	Water Operator III- Santa Teresa Water Plant Operator III
Joe Aguilera	Management Analyst II
Joe Montenero	Water Measurement Unit Manager
John Bozzo	Field Operations Administrator
Jose Ortiz	Engineering Unit Manager
Judy Ingols	Senior Maintenance Worker
Ken Baker	Water Plant Supervisor
Kenn Reiller	Associate Civil Engineer
Lynda Schafhauser	Water Plant Supervisor
Mark Wander	Program Administrator
Michael Cochran	Control System Supervisor, Instrumentation Tech., Raw & Treat Water – Control Systems Technician Supervisor

Appendix A – Interviewee Lists (continued)

Water Operations Interviewee List	
Employee	**Title/ Job Function**
Michael Hamer	Deputy Group Manager
Rick Linquist	Field Operations Administrator
Rick Mathews	Senior Plant Maintenance Mechanic
Roger Dollarhide	Water Plant Supervisor
Ron Jacobs	Equipment Management Unit Manager
Ron Tarp	Senior Plant Maintenance Mechanic
Stan Wallis	Water Plant Supervisor
Will Hutchinson	Program Administrator

Appendix A – Interviewee Lists (continued)

Water Quality/Water Resources Interviewee List	
Employee	**Title/ Job Function**
Bill Molnar	Engineering Unit Manager
Frank Cotton	Special Programs Engineer
Frank Maitski	Deputy Group Manager
James Crowley	Engineering Unit Manager
Jim Scott	Laboratory Unit Manager
Joan Maher	Imported Water Unit Manager
Keith Whitman	Executive Project Manager
Kent Haake	Engineering Systems Analyst
Marc Klemensic	Executive Project Manager
Melanie Richardson	Executive Project Manager
Mike Duffy	Wells and Water Services Unit Manager
Nai Hseuh	Water Resources Group Manager
Sandy Oblonsky	Water Quality Unit Manager
Seena Hoose	Engineer Geologist
Terri Anderson	Senior Engineer
Tracy Hemmeter	Senior Water Quality Specialist
Tracy Ligon	Senior Project Manager
Walt Wadlow	Assistant General Manager

Community and Government, Business Management and Finance, and the Capital Improvement Program Interviewee List	
Employee	**Title/ Job Function**
Angela Newman	Information Systems Unit Manager
Allison Russell	Public Information Representative II
Bill Knoff	Information Systems Unit Manager
Bill Tucker	Technical Services Unit Manager
Cheri Northup	Human Resources Unit Manager
Dave Chesterman	Group Manager
Dave Hook	Senior Project Manager
David Salsbery	Biologist III
Dick Wentzel	Engineering Unit Manager
Elizabeth Emmett	Public Information Representative II
Ellen Mody	Senior Hydrologic Systems Ananlyst
Eric Simons	Procurement and Materials Unit Manager
Frank Fung	Network Administrator
Gary Faler	Land Surveys and Mapping Unit Manager
Gary Kawaoka	Engineering Unit Manager
Hossein Ashktoras	Acting Conservation Manager
I-wen Yang	Associate Civil Engineer
James Fiedler	Executive Project Manager
Jason Christie	Engineering Unit Manager
John Ryan	Water Utility Business Manager
Jose Peralez	Deputy Group Manager
Kay Whitlock	Assistant General Manager
Kurt Arends	Senior Project Manager
Linda Acosta	Senior Hydrologic Systems Ananlyst
Luis Ortiz	Assistant Engineer II
Olga Martin Steele	Group Manager
Ralph Blair	Engineering Unit Manager

Appendix A – Interviewee Lists (continued)

Community and Government, Business Management and Finance, and the Capital Improvement Program Interviewee List	
Employee	**Title/ Job Function**
Rick Callender	Senior Management Analyst
Ron Davis	Legislative Representative
Ron Whipp	Risk Management Administrator
Rudy Muravez	Deputy Group Manager
Steve Conway	Financial Services Unit Manager
Steve Wing	Information Systems Analyst III
Teddy Morse	Public Information Unit Manager
Tom Dean	Executive Project Manager
Tom Spada	Senior Buyer

Appendix A – Interviewee Lists (continued)

Board of Directors
Greg Zlotnick
Larry Wilson
Rosemary Kamei
Robert Gross
Sig Sanchez
Tony Estremera

Customer Interviews	
Interviewee	**Company**
Dan Hammons	City of Sunnyvale
Dan Stockton	Great Oaks Water Company
George Belhumeur	San Jose Water Company
Jim Ashcraft	City of Morgan Hill
Mansour Nasser	City of San Jose
Ralph Santos	El Camino Packing
Scott Yoo	San Jose Water Company

Appendix B
Document Control List

Appendix B – Document Control List

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
1	5/26/98	1998/99 Capital Improvement Plan	Santa Clara Valley Water District	
2	7/9/99	Memo transmitting 5 copies of the Water Utility Budget Section (only one copy in the files)	Santa Clara Valley Water District	Pete Talbot, MPI
3	6/23/94	Santa Clara Valley Water District Water Utility System Revenue Bonds Series 1994A ($65,915,00)		Santa Clara Valley Water District
4	6/1/99	Summary budget fiscal year 1990/00 & 2000/01		Submitted by Stanley M. Williams, General Manager
5		MPI Presentation to SCVWD "Focused Independent Performance Audit Indentifies Operations Improvements and Cost Saving Opportunities"	MPI	Santa Clara Valley Water District
6	7/7/99	Email transmitting SCVWD organization list	Kris Richard, SCVWD	Pete Talbot, MPI
7	11/20/99	Water Utility Enterprise Report, Final, November 1998	Stanley Williams, General Manager, SCVWD	Board of Directors
8	6/30/97	Comprehensive Annual Financial Report for the Fiscal Year Ended	SCVWD, General Accounting Services Unit	
9	1/97	Integrated Water Resources Plan - Executive Summary	SCVWD	
10	6/99	Integrated Water Resources Plan - Implementation Plan	SCVWD	
11	4/99	Water Utility Business Plan	Keith Whitman & John Ryan	
12	6/30/99	SCVWD Budget & Financial Status Report (Preliminary - Unaudited)		
13		Folder containing various SCVWD brochures/articles		
14	8/99	SCVWD Governance Policies of the Board of Directors		
15	12/14/98	SCVWD District Policies & Procedures		
16		Folder containing various overhead		
17	7/99	Organizational Performance 1998-99, General Manager's Report to the Board (2 copies)		
18	5/26/98	SCVWD 1998/99 Capital & Operating Budget	SCVWD	
19	5/4/99	Letter to the SCVWD Board of Directors submitting the District's 1998-99 Quarterly Status Report for review and consideration	Stanley Williams, General Manager, SCVWD	SCVWD Board of Directors
20	3/18/99	Section 4.4 Budget Units (charge accounts with Water Utility Organization Chart 2)		

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
21		SCVWD 1996-1997 Annual Performance Report		
22	8/9/99	SCVWD Performance Audit Project Champion Meeting		
23	-	Priorities Issues - Goals, Objectives, & Measures of Success - 8 Board of Directors Initiatives (Old)	SCVWD	
24	7/7/99	Email transmitting SCVWD Roster dated 5/3/99	Kris Richard, SCVWD	Pete Talbot, MPI
25	9/98	Santa Clara Valley Water District Selft Assessment Report	American Water Works Association	SCVWD
26	10/1/98	Overviews of Water Utility - Business Process Categories for AWWA Peer Review Team	AWWA Peer Review Team	SCVWD
27	6/1/99	1990/00 & 2000/01 Capital and Operating Budget	SCVWD	
28	8/99	Santa Teresa Monthly Report, August 1999 (Monitoring for Surface Water Treatment Regulations for the Santa Teresa WTP)		Department of Health Services
29	10/4/99	Memo to Employees of SCVWD re: GM Bulletin	Stanley Williams, General Manager, SCVWD	SCVWD Employees
30	5/99	SCVWD Operations & Maintenance Group, 1999 Water Operations Report including 1999 Operations Plan and Summary of 1998 Operations	Jeffrey Micko, Joe Aguilera	SCVWD Board of Directors
31	7/99	Santa Teresa Water Treatment Plant Operating Report	SCVWD	
32	8/5/99	Memo re: O&M Program Responsibilities with organization chart	Walt Wadlow, SCVWD	Distribution
33	9/28/99	Santa Clara Valley Water District Organization Chart		
34	7/29/99	Memo re: Strategic Plan for the Operatioins & Maintenance Group	Marc Klemencic, SCVWD	Walt Wadlow, SCVWD
35		Five Year Capital Improvement Program, Fiscal Year 1999-2000		
36	8/99	Santa Teresa Monthly Report		
37	10/4/99	Monthly Progress Report, Water Measurement Services Unit, Operations and Maintenance Group	Joe Montenero	Mike Hamer & Jenny Micko
38	5/94	Information Sheet re: Meter Installation Requirements and Specifications for a Water Producing Facility	SCVWD	
39	4/96	Information Sheet re: Meter Installation Requirements and Specifications for a New Water Producing Surface Water Facility	SCVWD	

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
40	—	Water Measurement Service Unit, Performance Measurements		
41	10/12/99	June 1998 Semi Annual Meter Reading worksheet and chart		
42	—	Spreadsheet - Depth to Water & Water Quality Sampling Information		
43		Spreadsheet - Fiscal 98/99 Average Annual Cost per District Meter Site (based on a 10 year period)		
44	5/11/99	Spreadsheet - Water Meter Inventory		
45		Spreadsheet & Chart - 98-99 Work Order Turn Around		
46	11/5/98	Email re: weekly board information	Marc Klemencic, SCVWD	Stanley Williams
47	11/16/93	Memo re: Meter Management Program (attachments: 1998 meter upgrades & reworks, 1997 meter upgrades & reworks, and 1996 meter upgrades & reworks)	Joe Montenero	Jack Sutcliffe, SCVWD
48	7/5/95	Memo re: Performance Standards/ Plant Supervisors	Heinz Haase, SCVWD	Bob Howard, SCVWD
49	9/30/99	Spreadsheet - Treated Water Summary		
50	10/8/99	Memo re: RWTP Status Report, September 1999	Ken Baker	Don Erba
51	10/12/99	Ken Baker's agenda for 10/12/99		
52	8/5/99	Memo re: Water Treatment Plant Chemical Use	Heinz Haase, SCVWD	Distribution
53	—	Chart - Operations and Maintenance Group - 00900 (4 copies)		
54	1/1/96	SCVWD Water Conveyance, Treatment and Distribution System (attachment: water supply facilities, south valley; water supply facilities north valley)	SCVWD	
55	—	Rinconada Water Treatment Plant Operations Report		
56	9/30/99	Letter transmitting monthly schedules for Water Project deliveries to the SCVWD for the year 2000, 2001 through 2004, and monthly SWP delivery schedules for 100%, 50% and 30% allocations for FY2000	Senior Engineer, Facility Engineering Unit	Thomas L. Hanson
57	—	Raw Water Distribution System Hydraulic Gradelines		
58		RWTP Operator Assignments		
59	—	Belt Press Guidelines		
60	9/1/99	Memo re: Implementation of EROP	Don Erba	Marc Klemencic

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
61	—	Board of Directors Meeting Agenda, Public Packet (Public Packet include: Agenda Items: 4 & 5, Board calendar, Agenda Items: 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, minutes from Board of Directors meeting 9/7/99 and 9/14/99, Agenda Items: 7, 8,9, 10b, 10c, 10d, 10e, 10f,12, 13, 14, 15b, 15c, 15d, 18a, and 18b)		
62	10/21/99	Revised Maintenance Worksheet Facility Maintenance Unit		
63	—	Blank Trouble Call Form use by Ops.	SCVWD	
64	10/25/99	Email transmitting re: workflow & business rules (attachment: Facility MAXIMO application chart)	Jeffrey Micko	Michael Hamer, Don Erba, Ken Baker, Carol Walsh, Jennie Micko, Anne Clayton, Stan Wallis, Roger Dollarhide, David Smith, Alan Zeisbrich, Al Koury, Michael Cochran
65	10/21/99	Email re: facilities MAXIMO upgrade	Ken Baker	Carol Walsh, Don Erba, Jeff Micko, Amador Torralba, Andrew Baum, Bill Ray, Bob Epps; Chris Allen, Dave Watts, Greg Pourroy, Jeff Walters, Jim Bernal, Mike Newell, Mike Noonan, Robert Salinas, Ruben Castillo, Steve Blake
66	9/13/99	MAXIMO Water Utilities Report (PMs for all Crafts - Scheduled vs. Completed Chart)		
67	10/26/99	Work Order Backlog Report for Controls Systems Wrok		
68	10/26/99	Preventive Maintenance Work Order		
69	—	Flood Control Facilities Maintenance Performance Measurements FY 98/99		
70	—	Policy of the Board Title: Board Governance Policies; Category: Governance Process	SCVWD	
71	—	Policy of the Board Title: Global Executive Constraint; Category: Executive Limitations	SCVWD	
72	—	Policy of the Board Title: Board Direction to the CEO/GM; Category: Ends	SCVWD	
73	—	Table with Agency's Address, Contact Name, Phone & Fax Number		
74	10/20/99	Water Retailers Meeting Agenda		
75	7/98	Operations & Maintenance Performance Measurements Report		
76	4/27/99	Draft Flood Control Benefit Assessment for Fiscal Year 1990-00	SCVWD	

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
77	7/99	Water Utility Enterprise Report, Final, July 1999	SCVWD	
78	10/28/99	Memo to Board of Directors re: Employee Bullentin	Stanley Williams, General Manager, SCVWD	Board of Directors
79	—	Employee Performance Evaluation Form (Blank) for Engineering Assoc.	SCVWD	
80	—	Employee Performance Evaluation Form (Blank) for Employees Assoc.	SCVWD	
81	10/14/99	Letter tansmitting Quarterly Report April - June 1998 for Equipment Management Unit (EMU)	Ron Jacobs, EMU, SCVWD	Doug Spiers, MPI
82	4/99	Water Utility Business Plan	SCVWD	
83	7/88	Drawings of Calero Outlet Works Water Supply Facilities, North Valley; Pacheco Pump Plant, Water Facilities, South Valley; Water Facilities South Valley; and Water Facilities North Valley	SCVWD	
84	—	Governance Policies of the Board of Directors	SCVWD	
85	5/99	Priority System Report - Budget Work Session		
86	2/8/99	Draft Budget Prioritizaion Model for 2000 and 2001 Guidance for Defining and Evaluating Funding Cases	SCVWD	
87	1/27/99	Draft Budget Prioritizaion Model for 2000 and 2001 Guidance for Defining and Scoring Funding Cases	SCVWD	
88	1/19/99	Complete sample of Employee Performance Evaluation forms	SCVWD	
89	6/16/99	SCVWD Operating & Capital Budget	SCVWD	
90	12/9/99	SCVWD Capital Detail Budget by Account w/Labor /Proj Mgr for fiscal period/yr: 13/00 Open and Closed Projects	SCVWD	
91	12/9/99	SCVWD Capital Detail Budget by Account w/Labor /Proj Mgr for fiscal period/yr: 13/00 Open and Closed Projects	SCVWD	
92	11/24/99	SCVWD Capital Projects Budget, Cost Center Summary, Job No. by Fund for Fiscal Period/Yr: 5/2000	SCVWD	
93	11/24/99	SCVWD Capital Projects Budget, Project Summary Job No. by Fund for Fiscal Period/Yr: 5/2000	SCVWD	
94	11/24/99	SCVWD Unit Operating Budget Summary by Job No. Fund within unit for Fiscal Period/Yr: 5/2000	SCVWD	
95	11/24/99	SCVWD Unit Labor Hours Detail - Fiscal Year: 2000	SCVWD	

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
96	12/8/99	SCVWD Capital Detail Budget, Capital Project Detail Report by Account w/Labor /Proj Mgr for fiscal period/yr: 5/00 Open and Closed Projects	SCVWD	
97	6/30/97	SCVWD Comprehensive Annual Financial Report For the Fiscal Year Ended June 30, 1997	SCVWD	
98	11/2/99	SCVWD's FY1999-00 Quarterly Status Report	SCVWD	Honorable Board of Directors
99	9/30/99	SCVWD 1st Quarter Budget Status Report - For the three months ended 9/30/99	SCVWD	
100	12/8/99	Spreadsheets on all past projects and one current change order types and $$	SCVWD	Doug Spiers, MPI
101	12/6/99	Cellular Phone Charges for October	Distribution	Eric Simons
102	—	October 1999 Status Report for the Special Projects Section		
103	12/7/99	SCVWD Web Site Org. Info		
104	11/17/99	Memorandum re: SCVWD Monthly Status Reports - October 1999	Dave Chesterman, SCVWD	Distribution
105	—	Flow Charts - Overview, Budget-CIP Development, Project/Program Manager Resource Allocation and Consultant Section		
106	12/7/99	SCVWD Board of Directors Meeting - Agenda and Report	SCVWD	
107	12/99	Copy of Aquafacts - Decmber 1999 Issue	SCVWD	
108	10/13/99	Monthly Status Report - September 1999 (via e-mail)	Tom Spada	JoAnne Baker and several cc's
109	10/20/99	Report re: Leaking underground storage tank program progress	SCVWD	
110	11/9/99	E-mail re: Information for suggested Unit Supervisor Training	Mike Duffy, SCVWD	Kara Forman, MPI
111	10/93	SCVWD Report re: Review of the Inventory Control Systems and Management Operations of the District Warehousing	McGladrey & Pullen, Certified Public Accountants and Consultants	SCVWD
112	9/24/98	Funding Cycle Process Flow Chart		
113	10/93	SCVWD Report re: Review of the Inventory Control Systems and Management Operations of the District Warehousing	McGladrey & Pullen, Certified Public Accountants and Consultants	SCVWD
114	11/10/99	Administration Presentation given at SCVWD on 11-10-99		SCVWD
115	11/8/99	Work Order Backlog Report for Fleet Program		

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
116	11/8/99	Chart - Preventive vs. Corrective Maintenance Work Orders		
117	10/18/99	SCVWD Case Closure Progress vs. Total Cases Listed		
118	—	SCVWD - Leaking Underground Storage Tank Oversight Program	SCVWD	
119	10/93	SCVWD Report re: Review of the Inventory Control Systems & Management Operations of the District Warehousing (original)	McGladrey & Pullen, Certified Public Accountants and Consultants	SCVWD & Doug Spiers - MPI
120	10/93	SCVWD Report re: Review of the Inventory Control Systems & Management Operations of the District Warehousing (original)	McGladrey & Pullen, Certified Public Accountants and Consultants	SCVWD
121	10/93	SCVWD Report re: Review of the Inventory Control Systems & Management Operations of the District Warehousing (original)	McGladrey & Pullen, Certified Public Accountants and Consultants	SCVWD
122	11/98	SCVWD Report re: Statistical Analysis of IWRP Preferred Strategy	SCVWD	
123	7/23/99	Information Resource Management Assessment	Westin Engineering, Inc.	SCVWD
124	12/98	Complete sample of Employee Performance Evaluation forms	SCVWD	
125	1/26/98	Complete sample of Employee Performance Evaluation forms	SCVWD	
126	—	SCVWD Report re: Governance Policies of the Board of Directors	SCVWD	
127	6/1/99	Key Projects Report for Priority Issues	SCVWD	Board of Directors
128	12/21/99	Board Members' Requests Lists - 90 Day Past Due List	SCVWD	Board of Directors
129	9/30/99	Quarterly Report of Investments	SCVWD	Board of Directors
130	12/31/99	2nd Quarter Budget Status Report	SCVWD	Board of Directors
131	1/5/99	Certification Showing That Publication of Ordinances During the Preceeding Calendar Year Has Been Duly Completed	Clerk of the Board	Board of Directors
132	11/16/99	Draft Water Suplpy Ends Policy Monitoring Report for Policy E-1.1	K. Whitman	Board of Directors
133	12/7/99	Draft Water Recycling Ends Policy and Monitoring Report for policy E-1.1.6	M. Richardson	Board of Directors
134	2/15/00	Executive Limitations Monitoring Reports for Policies EL-1.6 and EL-1.9	O. Martin-Steele	Board of Directors
135	2/15/00	Discussion of Format for Moniitoring Report for Ends Policy E-1.2	General Manager	Board of Directors

Appendix B – Document Control List (continued)

Doc. No.	Doc. Date	Document Title	Document Prepared by	Document Prepared for
136	1/27/00	Silicon Valley's Water Supply and Water Quality Challenges	SCVWD	Public

Appendix C
Employee Surveys

Appendix C –Employee Surveys

Performance Survey Questionnaire for Employees

Please mail to Malcolm Pirnie, Inc.,
using the enclosed self-addressed, stamped envelop, by October 5, 1999.

The purpose of the following confidential performance survey is to identify issues and areas of improvement within the Santa Clara Valley Water District. Please answer each of the following questions truthfully and honestly and mail your responses in the enclosed stamped envelope. Your responses will be kept confidential.

Please submit your responses on this sheet of paper.

1. The vision and goals of the Santa Clara Valley Water District water utility are clearly defined and communicated to all employees.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

2. Management has an established process for soliciting my input prior to making key decisions that affect my work.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

3. The existing organizational structures are effective in adequately managing and implementing necessary changes within the utility.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

4. Good employee performance is adequately rewarded and poor performance is adequately corrected at all levels of our organization?

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

5. I have all of the tools, information and resources necessary to carry out my job duties.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

6. If you had the ability to implement any change(s) in the Utility, what would they be?

_____

_____

_____

_____

_____

7. What are the barriers to effectively implementing change within the Utility?

_____

_____

_____

_____

_____

8. Do you feel that positive changes will result from this Performance Audit?

☐ *YES* ☐ *NO*

Please explain:

_____

_____

_____

_____

_____

Appendix C –Employee Surveys (continued)

1. The vision and goals of the Santa Clara Valley Water District are clearly defined and communicated to all employees.

	Strongly Agree	*Agree*	*Disagree*	*Strongly Disagree*
10/8	9	30	21	2
				X

2. Management has an established process for soliciting my input prior to making key decisions that affect my work.

	Strongly Agree	Agree	Disagree	Strongly Disagree
10/8	1	16	29	15
				X

3. The existing organizational structures are effective in adequately managing and implementing necessary changes within the utility.

	Strongly Agree	Agree	Disagree	Strongly Disagree
10/8	2	17	29	13
				X

4. Good employee performance is adequately rewarded and poor performance is adequately corrected at all levels of our organization.

	Strongly Agree	Agree	Disagree	Strongly Disagree
10/8	0	7	26	28
				X

5. I have all of the tools, information and resources necessary to carry out my job duties.

	Strongly Agree	Agree	Disagree	Strongly Disagree
10/8	7	34	17	4
				X

Note: X = average score based on the responses from _____ completed surveys.

6. If you had the ability to implement any changes in the utility, what would they be?

- Have Human Resources fill staff openings more quickly
- Divide workload more equally; too many managers/lead people-not enough workers
- Streamline hiring process; currently requires involvement of too many to recruit and fill positions
- Promote from within a department whenever possible

- Employees who receive poor performance evaluations or break work rules are able to avoid accountability by filing harassment complaints, union complaints or discrimination complaints.
- Strongly review the hiring practices, especially with regard to involving the unit managers and hiring someone in a timely manner.
- Allow staff input into plant budgets
- Don't pay employees whose performance is good the same salary as employees whose performance is not up to the level it should be
- Make poor performance recognized and addressed
- The Board needs to make more timely decisions and give the employees the tools necessary (i.e., District Act changes) to implement changes; too much time elapses
- Make sure the hiring process seeks qualified applicants as a primary goal
- Make sure poor performers and individuals who blatantly avoid responsibility are challenged; occasional investigations of employee misconduct are handled poorly
- The District's culture is so strong, change is difficult to implement
- Eliminate excessive management positions (e.g., Senior Project Manager); phase out project management scheme
- Need slow growth
- Hire new people primarily based on whether they can do the job, not whether they are female or a minority; eliminate affirmative action
- Long term planning could be improved. A peer review of assumptions used during planning should be conducted by in-house professionals and outside experts. Assumptions used in identifying demands, supplies (groundwater basin storage), hydrology and recharge need to be examined. Utility should not be over-designed or driven by supply side assumptions
- Emphasize individual performance reviews; implement staff review of supervisors to increase communication
- Provide a clear understanding of roles and responsibilities for all O & M employees
- Hold employees accountable for their responsibilities and take corrective action when responsibilities are not met
- Streamline organization structure; reduce layers of supervisors; reduce unnecessary meetings; clearly define roles and responsibilities; reduce consultant services
- Make employees accountable for their job performance; focus on improving the performance of poor performers rather than moving them to new positions
- Hire strong, experienced managers
- Understand the community we serve better so we reflect their values and diversity
- Current organizational structure is not effective; programs are fragmented; reduce management levels; move more decision-making authority to lower levels; put more emphasis on technical expertise and quality control and less emphasis on the management

"philosophy du jour"; eliminate project management; balance workloads more equitably across District.

- Develop long range water quality goals for known contaminants throughout the groundwater basin to protect water supplies into the future; need better understanding of groundwater basin, especially in movement and quality
- Hire a manager and fill the superintendent position
- Put decision-making at the appropriate responsibility level; require technical expertise at supervisory level to make appropriate decisions; reduce popularity aspect
- Make the utility more visible to the public
- Bring back common sense to decision-making; reduce staff and roll multiple positions into one; stop moving non-performers around; reduce middle management
- Improve communications within the Utility as well as between groups in the District; improve documentation, policies and procedures; improve equipment replacement/lifespan expectations; refine PM/CM documentation
- Allow unit managers and unit staff more input into the selection and hiring process; improve the District's internal customer services so that program staff can better perform their job duties and provide better external customer service
- Eliminate some project management classes; increase staff with experienced people and eliminate management (i.e., project managers, project coordinators) who push papers
- Hire/appoint Project Managers for each capital project; develop a pro-active CIP to systematically assess, replace, repair aging infrastructure rather than current reactionary mode
- Retrofit the plant filters with multiple port headloss sensors/system; reconsider the cost benefit of major changes at treatment plants; install systems to be able to better operate and determine efficiencies of groundwater recharge systems and operations
- Implement more goal setting and decision making at the top with concrete decisions communicated to all in an integrated, coordinated set of project and program goals shared by all; find work for employees who are willing and able to contribute rather than let valuable people sit stagnant because management doesn't know how to deal with non-performing unit managers; promote based on qualifications and provide opportunities for development and training that is not based on ethnic quotas;
- Re-combine groups that were split during the last reorganization that should be working together
- Management should work more closely with field personnel before developing and implementing policies and making decisions that effect the operations
- Make sure that each unit directly involved with the Water Utility coordinates their work so there isn't redundancy
- There are too many managers
- Managers (at the senior level) must be willing to take responsibility for problems. Lower staff levels should not feel responsible.

- Streamline the hiring process; management is constantly changing, rearranging and delaying the hiring process
- Dispense with the time-wasting formal interviews for promotions in favor of a simpler procedure where people are judged on their experience instead of how they perform in an interview
- Eliminate "micro managing" from the Board down to the Unit Managers; replace indecisive managers; reward employees for cost or time-saving suggestions; stop threatening or intimidating employees with the "case for privatization"
- Get one manager capable of making a decision on his own and not rotating managers; managers need to be held as accountable as other employees
- Make sure everyone is accountable for their job
- Implement better coordination between water resources staff so that programs and projects become an opportunity for long-term, environmentally sound solutions that are cost-effective using life-cycle estimates
- Top management should have some knowledge of the operation of a utility
- Streamline the hiring process (taking two years to fill position is too long)
- Increase qualifications of staff (particularly electrical staff); should be completing both corrective and preventative maintenance; empower and solicit recommendations from those who need to accomplish the work; terminate or reassign with training non-productive employees
- Make sure performance is accurately and frequently evaluated and that staff be accountable for their performance.
- No changes are needed at my level
- Eliminate short staffing
- Integrate the 3 or 4 units that manage and protect groundwater; management needs to solicit input from staff when developing policies; increase communication between management and staff
- Reduce hiring process to allow replacements to be hired more quickly
- Involve management in staffing projects they have handed out with high priority when staff resources are limited
- Management needs to listen to expert advise of technical staff and act accordingly
- More focused project management so that interactive design revisions are not needed before we have a project accepted by permitting agencies
- Too many approvals required, particularly for recruitment
- Too much time spent in meeting discussing non-work pertinent issues
- Eliminate management's elitist, arrogant attitude towards employees and customers; eliminate managerial favoritism toward certain individuals/groups; replace the class/comp study mechanism with a system that is fair and equitable

- We have no leadership with a vision of the future or ideas/plans to draw everyone forward into the future (like Kennedy galvanizing the nation to get to the moon)
- Improve business plan to treat the Utility like a business and eliminate political issues; improve and effectively use the CIP (doesn't carry the value it needs to have, nor is it used effectively to endure that resources--money and people—are available in the future to support projects)
- Improve hiring process (do not use diversity as a crutch, hire people because of their qualifications and merit not their race or gender)
- Develop and maintain hydraulic models of our existing pipeline systems (treated water and raw water) as "read only" data for everyone; develop and maintain a database for key pipeline/plant information (HGL external loading conditions, pipe design (diameter, pipe type, cylinder thickness, etc.), date installed, contractor, contract no); develop and routinely update a list of "who to contact" (i.e., for work pertaining to Almaden Valley Pipeline, call ___ for planning, ____ for design, ___ for operations, ____ for maintenance, etc.)
- Improve communication from upper level management to employees; make sure all employees receive proper training, are aware of district vision on future work; maintain good employee relations by requiring management, group managers, unit manager, supervisors to be more insightful, courteous in their explanation and directive and be supportive (lacking) and respectful to employees needs

7. What are the barriers to effectively implementing change within the utility?

- Upper management is not pro-active in their concern for the working force
- Some managers do not have managerial, public relations or problem-solving skills
- Board of Directors "micro managing"
- No one is in charge; there is no leadership who is accountable; no spokesperson for changes
- Decisions made based only on the "bottom line"
- Lack of accountability at all levels (Board, Executive and Mid-management); no clear direction; no "buy in" to change from mid-management and staff
- Implementation of change(s) faces resistance from management rather than a welcome hand (too much time spent on paperwork)
- Mid-management "micro managing"
- Board of Directors making decisions that don't allow us the freedom to do our jobs right and proactively
- Individuals with enough control to just maintain their comfort level; management that reverses decisions frequently resulting in lack of confidence from staff
- Unit managers and above protecting their own turf; employee distrust of management's qualifications and capabilities

- The development-oriented agenda of the Board causes the District to go in illogical directions (Ex: need unlimited water for growth and will use recycled water but have no knowledge of the ramifications of using recycled water)
- Indecisiveness of management
- The entrenched politically liberal mindset which does not tolerate dissenting views
- Long-time unit supervisors, passed over for promotions, refuse to cooperate with other units as "payback"
- Management afraid of implementing unpopular changes that could create negative press affecting upcoming elections; lack of communication, direction and oversight from management; employees without desire to improve or encourage change, or be held accountable
- Employees resist change when it negatively affects their power status or salary
- People in management roles are reluctant to discipline poor performing employees
- Too many regulatory restrictions
- We've institutionalized problems so some part of the organization are rigid
- Dysfunctional organizational structure; non-existent leadership; inexperienced management; emphasis on process not quality product; no effective way to assess product or process to make improvements
- Constantly changing priorities and goals of the Board and upper management; resources are not put where they would be most effective; no mechanism to consolidate ideas of District-wide staff to improve things or recommend changes
- Hire an O&M manager rather than providing rotating interim managers
- Management encourages change for the sake of change; inability to sustain changes makes it difficult for employees to buy in; management has no clue that change does not equal improvement
- Lack of adequate external incentives to change
- Closed mindedness; no accountability; cover ups on problem areas; everything starts at the top
- Lack of well defined roles and lack of key players taking responsibility for issues; better follow through
- Decision-making authority has moved to higher levels of management who don't understand the impacts of their decisions of the operation of particular units
- Procurement of equipment and resources needed is too complicated and takes too long
- Lack of leadership
- Too much red tape; too many top level managers with no intermediate Project Mangers; positions go from Senior Manager to Technical Leads who are expected to function as PM as well
- Inertia? Culture? Prejudices? Cost? Time? Organizational barricades? No need for change?

- Unclear priorities; no meaningful decision-making leadership or accountability in upper management; differences of opinion regarding unit manager authority and accountability (such as, project management and employee development)
- No one is willing to listen to suggestions for change even through they think some change is necessary
- Employees that have been in positions for a long time see change as a threat to their job; too much territorial areas making it difficult to get information or resources
- Too many procedures to perform work instead of reasonable judgment decisions; no encouragement of innovation and creativity
- Good performance is not rewarded and poor performance is mismanaged; need to replace top management with managers that have private-sector and good people skills for employee buy in
- Mid-management lacks ability to make and carry out decisions; no accountability for changes; management (below Asst. Gen. Manager) does not feel it has authority to make/implement decisions which leaves the staff directionless
- Change only comes from the top without input from lower level staff; indecision creates chaos
- Not making a decision and when they do make one, it's wrong (because they were misinformed)
- People are not held accountable for their job
- Water Utility and other divisions do not cooperate with each other, especially when Water Utility needs another division to complete a project which requires their active participation
- Incompetent personnel;
- Purpose/value of proposed change not usually well defined/advertised
- Lack of direct and enlightened supervision; no sense of teamwork or coordination of effort toward a common goal at the unit level
- At my facility, there are no barriers to implementing change; our team meetings encourage all employees to suggest changes and improvements
- Too much pervasive empire-building and turf-protecting; significant amount of "covering your ass" going on; upper management's timidity towards the Board of Directors.
- The adversarial relationship between management and employees through the manipulation of class/comp studies and MOU agreements; apathy generated by management's alienation of staff seems insurmountable
- Micro-management by the Board and upper management of day-to-day activities
- Inability to get people hired in a timely fashion
- Board and General Manager's mentality; managers lacking the guts to stand up for what they believe in; employees not wanting to change because they are afraid of change and would rather stick with what they have

- Lack of clearly articulated planning, design and, especially, O & M organizational structure; lack of communication of structure to employees; no established communication "tree" that can be utilized to solicit improvement ideas, review and evaluate suggested improvement, inform all staff of implemented changes so that all key team members who need to be involved are informed
- Improved training and better feedback from supervisors and group managers (stay away from becoming Big Brother). It seems the personal touch is gone. No direct conversation is used anymore; everything is e-mailed or by the grapevine. E-mail is fine and useful, but sometimes a face-to-face conversation means more.

8. Do you feel that positive change will result from this Operations and Maintenance Review?

	Yes	Other	No
10/8/1999	2	16	23

Note: X = average score based on the responses from 62 completed surveys.

- This survey was put out, I hope, for feedback on improving the system. I hope this is the end result! This is a good start!
- I believe that if management is held accountable for implementing positive changes that it will happen; otherwise, my answer to this question is no.
- It has not worked in the past; it would be hard to believe that it would work this time around
- Over the years, many surveys have been completed. The results are usually the same—it looks good on paper, but there is no aggressive implementation or follow-up. Consequently, nothing changes
- Ordinarily, I would say no. But with the Board in the loop, it is more likely that changes would results from this audit.
- The changes may be subtle and take time to implement making it difficult for staff to realize
- There are no mechanisms (structural/organizational) to implement any change or monitor the progress. It appears that this audit is also lacking the assessments of this responsibility and its value in the organization.
- When audits are performed, it seems there is always a scapegoat, rather than dealing with the problem head on.
- Even through I have high hopes, if past practices continue, no changes will come about. We have a bad track record. We will still only be seen as janitors, instead of qualified maintenance people.
- I try to be optimistic and it is my hope that positive changes will come out of this extensive/comprehensive effort.
- There is always hope and there are a good number of qualified staff still trying.

- Somewhat no, because this process is no different than the one we did before. In my opinion, it really depends on how serious the management would like to change. Not a lot of people would like to change unless they are forced to.
- Doug used the term "low hanging fruit" when discussing this topic. I could see some obvious positive results—perhaps minimizing overtime.
- I feel that strengths and weaknesses will be documented with corresponding changes as needed.
- Affirmative action is the cancer of the water district and will continue regardless of the damage it causes. No one cares about capability.
- I would hope that some candid feedback will be heard and considered. If necessary, change may result from the input provided during this process.
- I believe that the District's Board of Directors and management are sincere about improving the effectiveness of the District. I know that some employees fear that the results of this audit will simply "sit on a shelf". I hope that the results of this audit are seriously considered by District management. I don't expect overnight change, but I would like to see steady progress.
- The District provides a great benefit to the public and many employees want change to see the District run more efficiently to provide even better services to the public.
- There have been several attempts to change, nothing has worked. There are still several layers of supervision, many unproductive meetings, and people who are not clear of their roles. Consultant services have increased significantly the past 5 years.
- I stopped looking for these types of audits to make any change. I do my work. I like my work and appreciate the positive things we have at the District. In spite of my remarks above, I believe this is a great place to work and feel very fortunate to work with so many dedicated, caring people.
- Performance audits should be performed at regular intervals.
- AGM is sincere in improving things.
- Generally pessimistic based on past responses to similar efforts.
- Minor changes might occur. But the District is not dynamic enough to deal with change in the short term. Maybe some long term changes, but that would be expected even without this audit. The District has a problem getting rid of ineffective or unnecessary programs and employees. The District is really bad at effectively utilizing matrix management and project management. Changing this would help.
- Just more lip service
- At this time, the culture is to rush around making inappropriate, poorly thought out changes in response to input, or input is ignored. I wish I could say I thought this audit will be different.
- If implementation of changes is addressed as seriously as this audit, positive changes will results. Often, implementation of important recommendations is not pursued.
- We've been through management studies before. They will cover up or manipulate finding for self preservation, moral platitudes, greed.

- I say no, only because other "audits" have not seemed to cause change. We have had poor follow through in the past and a perception that advice/suggestions from staff were not evaluated fairly or acted upon.
- I don't know enough about it to make a judgment.
- Too much bureaucracy in public agencies like the District. Therefore, I don't expect any positive changes.
- Maybe. If so, it would take a long time.
- As long as the consultant asks the right questions to the right people. Broad questions like the above aren't very useful. I suggest you send out very specific questionnaires or better, schedule workshops to answer the questionnaires right then. Mail-ins are not very productive.
- My perception, one of the "Organizational Culture Survey" by Dr. Carleen Young was for staff to respond/counter the findings. Hopefully, the process, the organization is somewhat more open to your findings, popular & unpopular. Good luck!
- We've had surveys and audit before, but I haven't seen positive changes in my area. My unit is not performing, my unit manager doesn't cooperate with project management or other units, and here we sit, month after month, accomplishing nothing of value to the District or its customers and the public. As has been the case for years now, there is no accountability or leadership at the top and no coordination or integration among units or project teams.
- The firm, Malcolm Pirnie, presented themselves as professional and seemed committed to giving a report on actual findings instead of giving an answer management would like to hear. Also, I think Walt Wadlow has given this audit his support and, therefore, committed to making necessary changes to improve upon the District's Water Utility.
- I think that it is much easier for an outside party to look at how an agency is functioning. If we can correct some of the problems, we will be more effective. Hire managers who make sound decisions and eliminate many of the procedures which take 6 months to 2 years. It takes as long to hire a design consultant than to perform the design. There is something wrong with this process.
- I heard a bunch more TQM gobbledegook resonating from between the lines of MP's 9/14/99 presentation. Management can audit itself ad nauseum, but it will take a shake up at the top, relieving those bloated, Pete Wilson rejects of their duties and hiring managers with private sector and good people skills before meaningful change will occur at the District.
- I think management is taking this seriously and will at least try to implement recommendations. I think it is healthy to take a hard, objective look at how things are done or not done around here.
- I trust that the analysis will be objective and impartial.
- From the last 5 performance audits we have had, only changes were the ones in the maintenance department. For the workers and flattening management levels, more money for them and as it turned out more managers and assistants.
- No prior audits (FC for example) changed management activities that I could see.

- I like to look on the brighter side. Some good comes from the most unexpected places. When Stan Williams gets a new job in Washington, D.C., after his wonderful success at the SCVWD, the new G.M. may look at the results of this audit and attempt to improve things. (rather than follow the newest management mumbo-jumbo).
- Too much time spent discussing privatization and change at orientation, which would indicate a mindset to accomplish these rather than determining what's working well, and what's not and providing alternative solutions to identified problems. Too much recent change already---change burnout.
- Yes. While my responses may indicate a sense of hopelessness, I generally believe that the majority of employees at the District are conscientious and conduct themselves in a responsible and thoughtful manner. Hopefully, this audit will reveal the positive contributions made by the majority of District employees and provide clear suggestions and recommendations in areas where legitimate deficiencies exist.
- I feel the District is an effective and efficient organization, but the first step towards improvement is to identify areas that might need improvement. Hopefully, this audit will be a starting point for any positive change.
- By putting everything out in the open, positives and negatives, I feel positive about this performance audit.
- Management is more and more interested in what is good for them. This new building seems to have gone to their heads. There will still be the attitude of not wanting to rock the boat and to go along to get along.
- The District Board and management have a vise-like grip on the affairs of the District and they like it this way. The collusion that exists between management and the employees' association/union (joke) always results in management getting its way. The p0ervasive helplessness and hopelessness that most employees feel is not conducive to positive change.
- We've had so many audits, reviews, etc. People are burned out and expect the same from this one—zero. Hope it's different.
- I think management has reached a point where it is open to change and realizing the importance of it. Having the Board governance is just one step in the right direction. I hope that the objectives, means and ends that are developed will go all the way to everybody. These should be clear to everybody so that everyone is clear on what needs to be done and how.
- I've heard from top management (AGM) that, unlike the AWWA survey, results will be communicated and that, also unlike the AWWA survey, action will be taken to make improvements in those areas that are identified as requiring improvements.
- I strongly believe that the Water District is moving in the right direction. At times, it seems rather slow, especially the hiring process. When the work force is understaffed, it creates stress and lowers the moral for that particular area. Overall, I believe that the Water District is doing a fine job bit there is still room for improvement.

Employee Survey Summary

Question	Stongly Agree	Agree	Disagree	Strongly Disagree	Average
Representative Score	**1**	**2**	**3**	**4**	
1	9	30	21	2	
	15%	**48%**	**34%**	**3%**	2.3
2	1	16	29	15	
	2%	**26%**	**47%**	**24%**	3.0
3	2	17	29	13	
	3%	**27%**	**47%**	**21%**	3.0
4	0	7	26	28	
	0%	**11%**	**42%**	**45%**	2.9
5	7	34	17	4	
	11%	**55%**	**27%**	**6%**	2.3
	Yes	**No**	**Don't Know/ Maybe**		
8	2	23	37		
	3%	**37%**	**60%**		

Total Respondents 62

Appendix D
Customer Surveys

Appendix D – Customer Surveys

Performance Survey Questionnaire for Customers

The purpose of the following confidential performance survey is to identify issues and areas of improvement within the Santa Clara Valley Water District (District). Please answer each of the following questions truthfully and honestly, and mail your responses in the enclosed stamped, self-addressed envelope. Your responses will be kept confidential.

Please submit your responses on this sheet of paper.

1. Please describe, in a sentence or two, the specific services your organization or agency receives from the District's Water Utility. Also, please note any other non-water utility services your organization receives (e.g., flood control).

_____

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2. Please describe, in a sentence or two, what you believe to be the principal mission of the District's Water Utility.

_____

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_____

_____

_____

Appendix D – Customer Surveys (continued)

3. Santa Clara Valley Water District management and staff clearly understand the mission and goals of the District Water Utility.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

4. The activities of District management and staff are aligned with the District's mission.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

5. The District has an effective process for soliciting customer input prior to making key decisions that affect customers.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

6. The quality of the water and other services provided by the District to my organization/agency adequately meet out needs.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

7. The cost of the water and services provided by the District to my organization/agency is reasonable.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

8. The District's organizational structure is effective for managing its relationships with its customers.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

9. The District rewards good employee performance adequately and adequately corrects poor performance at all levels within the organization.

   Strongly agree *Agree* *Disagree* *Strongly Disagree*

10. District employees have all of the tools, information and resources necessary to carry out their job duties.

    Strongly agree *Agree* *Disagree* *Strongly Disagree*

11. If you had the ability to implement any change(s) in the District's Water Utility, what would they be?

_____

_____

_____

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_____

- 12. What are the barriers to effectively implementing change within the District's Water Utility?

_____

_____

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_____

_____

Customer Survey Results

1. Please describe, in a sentence or two, the specific services your organization or agency receives from the District's Water Utility. Also, please note any other non-water utility services your organization receives (e.g., flood control).

- Flood control, urban runoff (non-point source)
- Flood protection
- Treated water, groundwater, flood control
- Groundwater; permits for crossing creeks and drainage ditches
- Flood control services
- Groundwater management including recharge and water quality monitoring; wholesale treated water; assistance for recycled water development; flood control; regional non-point pollution programs and basin management
- Treated water; groundwater basin management; flood control
- Flood control; domestic and agricultural water management; water treatment and distribution maintenance; flood control channel and facilities maintenance
- Treated water, groundwater basin management; water conservation
- Flood control; drinking water supply and quality; underground tank compliance
- Treated drinking water; groundwater; flood control and environmental protection services
- Pre-water supply; flood control; conservation
- Treated water
- Water; water conservation assistance; water basin management; monitoring and implementation of UST Program; flood control
- Groundwater; legislative and environmental efforts to protect water supply; flood control
- Purchase treated surface water from 3 SCVWD plants and pump groundwater from aquifers managed by SCVWD.
- Purchase groundwater, surface water and treated water; lease various properties; assistance with HazMat responses at reservoirs; site mitigation oversight.

2. Please describe, in a sentence or two, what you believe to be the principal mission of the District's Water Utility.

- Safe, secure delivery of water to retailers while protecting the environment.
- Manages the movement of water into and out of the County.
- To provide a reliable, good quality water at a reasonable price.

- Maintain water levels by managing pumping, reservoirs, perculation ponds, procuring water from water resource agency, etc., plus flood control.
- Manage the local water supply and flood control activities within the County.
- Provide Santa Clara Valley with dependable supply of safe, healthful water in efficient, cost-effective and environmentally protective manner.
- The principal mission is to provide high quality treated water and reliable water supply availability to its customers. The SCVWD is also tasked with protecting the existing water resources.
- Manage flood control. Provide water to County.
- Manage water resources and flood control activities within Santa Clara County.
- Water management.
- To manage local and imported water supplies to meet the needs of Santa Clara County residents and businesses (including local governments). To provide for flood control.
- To supply quality water at a reasonable cost to conserve our resources.
- To furnish reliable sources of high quality water that meets or exceed all Federal and State requirements at the least cost possible.
- To supply a clean, safe source of potable water now and in the future. This is accomplished by utilizing all the tools and programs listed above.
- Provide water to the County.
- Provide as safe, reliable supply of drinking water to their retail water agencies.
- Provide reliable water supply for the District and flood control.

3. Santa Clara Valley Water District management and staff clearly understand the mission and goals of the District Water Utility.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
1	14	0	0	2

4. The activities of District management and staff are aligned with the District's mission.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
1	13	0	0	3

5. The District has an effective process for soliciting customer input prior to making key decisions that affect customers.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
0	13	4	0	0

6. The quality of the water and other services provided by the District to my organization/agency adequately meet out needs.

Strongly agree	***Agree***	***Disagree***	***Strongly Disagree***	***No Opinion***
3	*10*	*2*	*0*	*2*

7. The cost of the water and services provided by the District to my organization/agency is reasonable.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
0	*10*	*6*	*1*	*0*

8. The District's organizational structure is effective for managing its relationships with its customers.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
0	5	6	1	5

9. The District rewards good employee performance adequately and adequately corrects poor performance at all levels within the organization.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
0	1	1	0	15

10. District employees have all of the tools, information and resources necessary to carry out their job duties.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
2	6	1	0	8

11. The District is well prepared to deal with emergency situations affecting its water utility operation.

Strongly agree	*Agree*	*Disagree*	*Strongly Disagree*	*No Opinion*
0	8	4	0	5

12. If you had the ability to implement any change(s) in the District's Water Utility, what would they be?

- Water Utility should fund creek maintenance and related "water course"/flood control activities.
- Audit everyone's time use and effectiveness. I have always felt that the top staff spends so much time at meetings of advisory groups, talking to stakeholders, and at board meetings, that there is little time for productive work.
- Keep looking for regional solutions.
- Eliminate the pump tax for Palo Alto. There are no recharge facilities in this area. Therefore, there should be no pump tax.

- A greater recognition of the contribution of conservation and recycled water to the County's water supply. Not water supply related, but easier and more expedient process for permits!
- 1) streamline the management, 2) eliminate service duplication, 3) implement a performance measurement system that can be used to measure cost of service, 4) implement an outsourcing policy, 5) partner with local utilities to increase efficiencies.
- To assume all maintenance of flood control channels. This would require obtaining through dedication, all easements and rights of way. This would make one agency in charge. Create one zone for the County and generate sufficient funds.
- Have the SCVWD share and explain its Operations Disaster Plan and Water Quality Emergency Plan with the retailers.
- 1) Organizational changes to establish greater accountability and control of water treatment operations. 2) Stronger emphasis and visibility of cost reduction measures implemented in water utility enterprise.
- Trim overhead and cost of doing business.
- 1) More partnerships with public and private agencies to improve water supply reliability, water quality and efficiency of district operations, thereby controlling the cost of delivered product. 2) Stable management structure that results in more consistent staffing of key positions (turnover in group manager positions has been high).
- One issue that has been discussed with the District in the past is the separation and distinction between Flood Control and Water Utility Funding.
- Reduce staffing levels. Reduce ancillary services not essential to core mission.
- The District needs to do a better job of notifying retailers of changes in water quality and available supply. The District also needs to consider retailer's ability to supply their systems when p0lanning plant shutdowns.
- Control costs, streamline operations with fewer contact people per client (i.e., well closure, HazMat response, VST remediation).

- 13. What are the barriers to effectively implementing change within the District's Water Utility?

- Very bureaucratic management and organization. Diffuse political structure with limited accountability/direct link to users.
- Entrenched bureaucracy. Poor oversight by elected board. There are no rewards for efficiency.
- Tough to do in a large organization. 2) Need good reason for change and to clearly communicate the reason.
- Not sure.
- employee union. 2) management, mid-level. 3) Lack of private business experience at top level management including the Board. 4) No commitment from the management—lack of incentive.

- Cost (lack of revenue).
- The District has no competition. There is never that urgent need to change and improve or else they will lose their market share. To quote Darwin: "It is not the strongest of species that survive, nor the most intelligent, but the one most responsive to change".
- Current management organization, although flexible from a project management point of view, does not seem to encourage accountability and consistency in water quality and treatment operations.
- Voting public.
- The high turnover in Group Management positions has impacted the continuity of progressive change at the District. 2) In many cases, the Group Managers that have been selected do not have direct experience in the area they assume control of and, therefore, have had difficulty in implementing changes that effectively and efficiently solve existing problems.
- Direction from Board of Directors. Legislative and legal requirements.
- District management does not consider the retail water agencies end users—our individual customers.
- Seemingly large bureaucracy.

Customer Survey Summary

Question	Stongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Average
Representative Score	**1**	**2**	**3**	**4**	**5**	
3	1	14	0	0	2	
	6%	**82%**	**0%**	**0%**	**12%**	2.3
4	1	13	0	0	3	
	6%	**76%**	**0%**	**0%**	**18%**	2.5
5	0	13	4	0	0	
	0%	**76%**	**24%**	**0%**	**0%**	2.2
6	3	10	2	0	2	
	18%	**59%**	**12%**	**0%**	**12%**	2.3
7	0	10	6	1	0	
	0%	**59%**	**35%**	**6%**	**0%**	2.5
8	0	5	6	1	5	
	0%	**29%**	**35%**	**6%**	**29%**	3.4
9	0	1	1	0	15	
	0%	**6%**	**6%**	**0%**	**88%**	4.7
10	2	6	1	0	8	
	12%	**35%**	**6%**	**0%**	**47%**	3.4
11	0	8	4	0	5	
	0%	**47%**	**24%**	**0%**	**29%**	3.1

Total Respondents 17

Appendix E
Water Treatment Plant Reporting Parameters

Appendix E – Water Treatment Plant Reporting Parameters

Current Water Treatment Plant Reporting Parameters

	Rinconada	Santa Teresa	Penitencia	Retain Performance Metric for Reporting
Production				
Avergae MGD	✘	✘		✓
Backwash (MG)			✘	
Plant Balance	✘	✘		✓
Plant Use (MG)			✘	
Raw Inflow	✘			
Recovered (MG)			✘	
Total Acre Feet	✘			
Total Raw Acre Feet		✘		✓
Total Raw MG	✘	✘	✘	✓
Treated Balance (Finished MG)	✘		✘	✓
Underflow (MG)			✘	
Plant Performance Plants report values at different locations (e.g. raw, settled and effluent)				
Cl Residual		✘		✓
CT		✘		✓
NTU – Average	✘	✘	✘	✓
NTU – Max		✘	✘	
NTU – Min		✘	✘	
pH – Average	✘		✘	✓
pH – Max			✘	
pH – Min			✘	
Raw Water Source		✘		✓
Temp. – Average			✘	✓
Temp. – Max	✘		✘	
Temp. – Min			✘	
Filter Performance				
Average Filter runs (hours)	✘	✘	✘	✓
Average Headloss/ Run (ft)			✘	✓
Filter run (hours)	✘			
GPM/ sq. ft.	✘			✓
GPM/ sq/ft./ Run			✘	
Total filters washed	✘	✘		
Wash Water (Total MG)		✘		
Wash Water in (Average MG per wash)			✘	✓
Chemical Usage				
Chemical Deliveries (#)				
Cost ($ total)	✘	✘	✘	
Cost ($/Acre Ft)	✘	✘	✘	
Cost ($/ MG)	✘			✓
Dose (mg/L)	✘	✘	✘	✓
Gallons Used	✘			✓
Lbs. Used	✘	✘	✘	✓
Lbs. Used (Y.T.D.)	✘		✘	
Lbs./ MG	✘			✓
Unit Cost of Individual Chemical	✘			

Appendix E – Water Treatment Plant Reporting Parameters (continued)

	Rinconada	Santa Teresa	Penitencia	Retain Performance Metric for Reporting
Water Production Costs				
$ per Acre Foot			✘	✓
$ per MG			✘	✓
Operating Hours				
Total hours	✘			✓
Solids Handling/ Belt Press				
Anionic Poly (Lbs/)			✘	
Hours of Belt Press Operation			✘	✓
Hrs/ Day Belt Press Operation			✘	
Sludge Hauled (loads)			✘	
Sludge Hauled (Tons)	✘			✓
Sludge Processed (MG)	✘			✓
Ponds				
Decant (gallons)	✘			
Return (gallons)	✘			

Total Number of Performance Metrics or their Variations Collectively Reported: ~52
Number of Performance Metrics Reported by all Three WTPs: 7
(same metric reported in same units)